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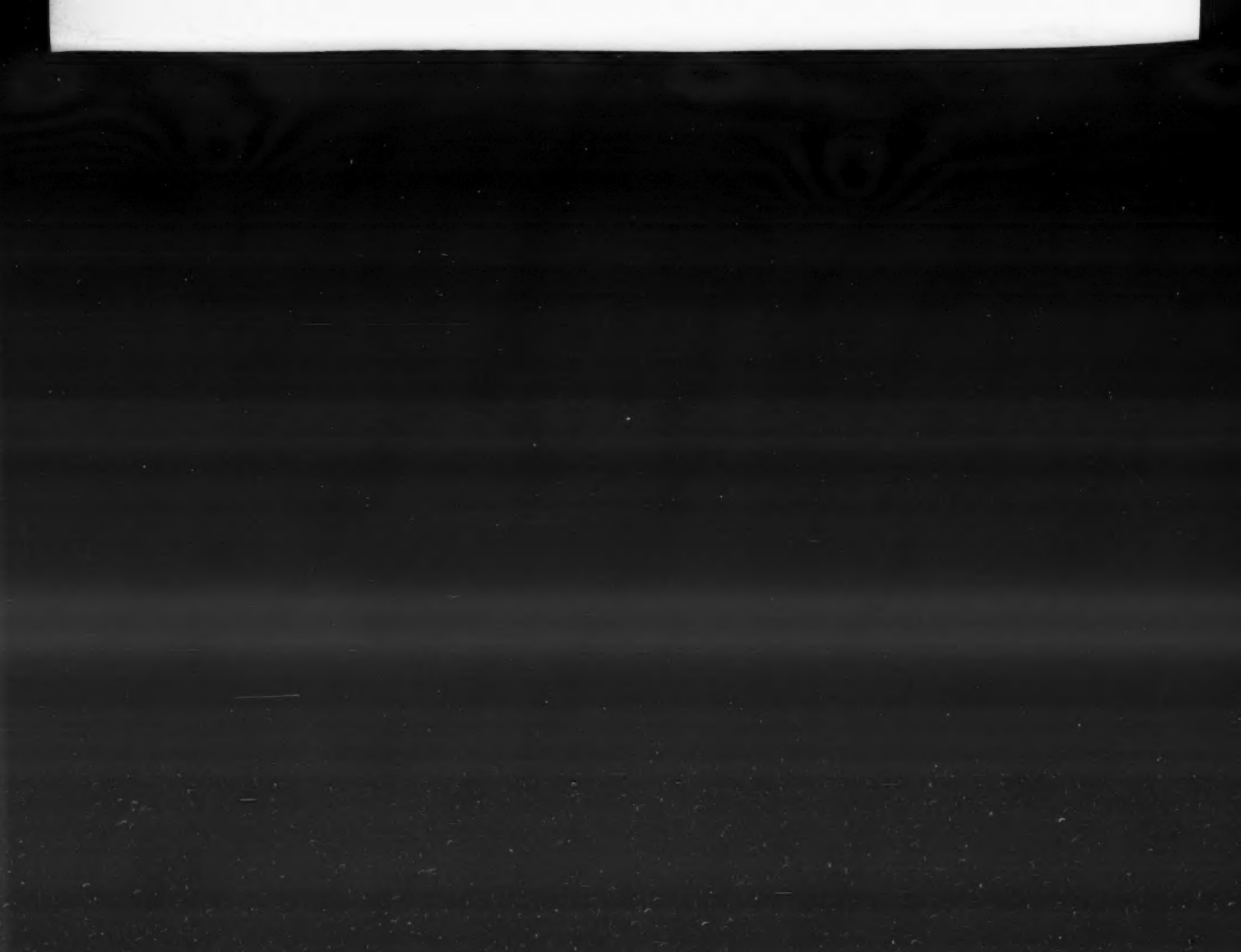

INDIA RUBBER WORLD

CAOUTCHOUC GUTTA-PERCHA

Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON, EDITOR. HAWTHORNE HILL, ASSOCIATE.

Vol. 24. SEPTEMBER 1, 1901. No. 6.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Entered at New York Post Office as mail matter of the second-class.

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TWELVE YEARS OLD.

WITH this issue THE INDIA RUBBER WORLD completes the twelfth year of publication. In this era of constant change, it is something of an achievement to keep a newspaper going for twelve years, under the same name, in the same form, and without departure from its original policy, and especially without change in its editorial control.

Last, but not least, among the elements of continuity in the career of this journal, is that part of its patronage which dates from the first issue. We have more subscribers and advertisers to-day, but none whose support is more cordial, or more highly appreciated, than that of the original band, recorded on the books of this office before there really was an INDIA RUBBER WORLD. The fact that this support has been unfailing, we cannot regard otherwise than as evidence that the paper has lived up to its program, and this of course is more important than the mere fact of having kept the paper going all these years.

While congratulating ourselves, we must also congratulate the trade upon its generally prosperous condition, its marked growth since this date in 1889, and the promise which exists of continued development. The demand for rubber goods grows all the while, not only for the older staples but for new classes of goods—not only in the old consuming districts but in new markets. As the world grows older there is room for more rubber factories, there are new problems to be worked out in the manipulation of rubber, and there is new work to be done in supplying the increasing demand for rubber. It is a good business, all around, for those who are qualified for it, and such conditions are most gratifying to the journalist whose business it is to record the progress of any industry.

THE OTHER SIDE OF THE QUESTION.

IT is borne upon one frequently, no matter how strong one's prejudice may be, nor how firm one's faith, that there are two sides to every question. Take, for example, the question of allowance of unfair claims. Any rubber manufacturer who makes an ironclad rule that no allowance shall ever be made, is quite likely to be the loser thereby. For example, a company whose business runs into many millions yearly, received a claim from one of their most important customers, amounting to thousands of dollars. It was wholly unfair, and the moving spirits in the company were exceedingly indignant. A junior official was sent down to reason with the claimant, but made no impression. At the same time he was convinced that they were conscientious in their attitude, even if mistaken. On returning with his report, the majority of the board were most decided in their decision that no such claim should be allowed. The actual head of the concern, however—a silent, reserved man who rarely took part in discussion—had been figuring busily meanwhile, and was able to show that the refusal to grant the claim would result in the loss of business exceedingly profitable, and amountlng to more each month than the amount repre-

sented by the claim. On the other hand, the allowance of it would bind good customers still more firmly to the company. The claim was therefore allowed, and the result was as he predicted, and not only that but the claimants nearly doubled their purchases within a year.

The point to be made here is, not that unjust claims should invariably be allowed, but simply that all claims should be considered, particularly when they are put forward in all honesty, and that it is sometimes good business to allow a conscientious customer to get the better end of the bargain.

AN IMPROVING SITUATION.

THE late John H. Cheever used to remark, sometimes, that there was nothing under the sun by means of which one could predict the price of crude rubber; so far as he could see, the sinking of a steamboat on the Missouri river was as likely to affect prices as anything else. Mr. Cheever was a rubber manufacturer for years before an ocean cable existed, before there were any regular crude rubber importing houses, and before the beginning of a good many things that now have a bearing upon rubber prices. In the early days of the industry crude rubber only "happened" in the market. As late as 1865 Mr. Cheever paid $1.05 for fine Pará in March, 62 cents in July, and $1 in December. He paid these figures because that was the "market"; as for reasons for the fluctuations, none could be had.

It all seemed like a lottery. Nobody was ever met in the early days who had seen rubber gathered; even the merchants in centers like Pará had not seen rubber trees growing. One did not know when to expect the arrival of rubber from any source, or what it would cost when it arrived. The rubber shoe manufacturers revised their prices four times in one season, on account of fluctuations in the cost of raw material.

All the elements of uncertainty have not disappeared yet, but their number is becoming smaller. For that matter, the price of wheat is not a fixed quantity, and it cannot be predicted certainly very far in advance. But it doesn't fluctuate violently enough to disturb the baker's trade, or render the supply of bread uncertain in any home. No doubt in the near future the rubber situation will be as comprehensible as the wheat situation. It will be even easier to size up existing supplies of rubber than supplies of grain, and as for forecasts, the advantage will be on the side of rubber. When the acreage of wheat is known, the yield is uncertain until after harvest, so much depends upon the weather. But if a given number of workers go into the rubber country under certain conditions, it is probable that about so much rubber will be gathered.

There is not room here for an enumeration of the improved means of transportation and communication that now connect the rubber consuming with the rubber producing countries, very many of which have come into existence since the first issue of THE INDIA RUBBER WORLD. But no longer does a cargo of rubber reach New York without its arrival being known in advance, even if the rubber is not sold at a fixed price before the steamer starts for this port. Altogether the situation has become a more favorable one for the rubber manufacturer, and further improvement in the same direction seems almost certain.

A REMARKABLE THING about the rubber business is its elasticity. This is not put forth in a humorous vein, nor with the idea of punning. Perhaps the word "adaptability" would express the thought better. For example, the mackintosh business prospered for awhile, a great deal of money was made, but suddenly competition brought it down to so low an ebb that the trade believed that, as a money making proposition the manufacture of mackintoshes offered nothing. Suddenly the windproof coat sprung in, which practically drove the leather jacket out of existence, and mackintosh factories were so crowded with orders that many of them ran day and night. The marvelous adaptability of rubber for almost all purposes was here illustrated, and in it lies the permanence and profitableness of the business.

THE EXPORTS OF RUBBER FOOTWEAR FROM the United States during the last fiscal year amounted to 1,469,100 pairs, compared with 175,627 pairs in the fiscal year ended June 30, 1891—ten years ago. The United States has now become the largest exporter of this class of goods, except Russia, not as the result of a sudden "boom," or on account of accidental or temporary circumstances, but because, in spite of the efforts of manufacturers elsewhere, the American production of attractive and serviceable rubber footwear to-day has the preference where the goods have become known. It should be mentioned, however, that the wider acquaintance of other countries with American rubber shoes of late is a result of better methods in conducting an export trade than at some times in the past.

THE SUBJECT OF RUBBER CULTURE is likely to receive an important degree of elucidation in the pages of a new periodical, the *Journal d'Agriculture Tropicale*, of Paris, of which Mons. J. Vilbouchevitch is the very capable editor.

THE NEW RUBBER TRUST.

THE Youngstown (Ohio) *Vindicator* says: "The various conflicting interests are now said to be in a better frame of mind, which, if true, presages a world-breaking deal for the control of the rubber trade of the western hemisphere. A consolidated company would probably be capitalized for not less than $125,000,000. The present Flint group has a live capital of $75,000,000."

The Cleveland (Ohio) *World* says: "Heretofore the company has purchased its crude rubber from other concerns. It now proposes to organize the manufacturers of crude with the dividend-paying concerns now in competition with the manufacturing company in one immense concern to control the trade in the United States and beyond it. The consolidation project is generally favored by local holders of the stock. One of them said Saturday to the *World* that the plan has reached a stage where its operation is only a question of time and that if any opposition existed it had not developed."

The Baltimore (Maryland) *Sun* learns from citizens of that town that the Amazon rubber country "has been controlled by the Rubber Trust, which has headquarters at Bristol, R. I., but we have now gotten in there and have about 2000 men ready to go to work upon the property."

"PACIFIC RUBBER" STILL AT WORK.

THE milk flows so rapidly from the enormous trees on the plantations of the "Pacific Rubber Co." that a pipe line is at once to be installed to connect with the company's headquarters near Wall street, New York, where it will discharge, so to speak, liquid dividends, and make even brighter the "pipe dreams" of the present investors. The last heavy importation of rubber by the company's steamer was not wholly successful. The rubber collectors on the plantation had not been able to deal with the rapid flow of milk with their usual care, and in the rush of their work mixed sugar with it, by mistake, with the result that the rubber fermented and bred so many worms that much of the shipment had to be thrown to the birds. With the pipe line at work, the curing of the rubber can be done in New York by more intelligent labor; it is even proposed to have the rubber run into some factory, where it will enter as milk at one end and come out at the other in the shape of finished goods.

But what do the "Pacific Rubber Co." want rubber for? They have this kind of a scheme:

They will sell as much stock as you want for cash (which they deposit in bank) to the extent of, say	$1,000
They can afford to pay monthly dividends at the rate of 20 per cent. per year, for two years, amounting to	400
After which they will have left	$ 600

—minus cost of advertising, printing, and office administration.

It is only necessary that they should sell a good many thousand dollars' worth of stock, for the company to make a pile of money for themselves. When they have paid dividends out of the investors' money long enough to have given an indication of good faith on their part—well, other people have failed in business through misfortune, and why shouldn't the "Pacific Rubber Co.?"

The company have paid two dividends—July 5 and August 5.

The price of shares has advanced from $2.50 to $3.50. But applicants for stock as late as August 14 were told:

> We have, however, some shares which we reserved for parties who gave us deposit on same, and have failed to make up the balance of their subscription, through inability to get hold of the money. We are glad to say, therefore, that we can let you have the amount of stock you ask for, if you can send check for same right away.

No doubt some stock could be had for $2.49.

The "Pacific Rubber Co." bought the last INDIA RUBBER WORLD at the publication office, but have not as yet filed any protest against the character of the statements about them contained in that paper. But such statements do not concern them greatly, since they expect to do business with a class of people not likely to see THE INDIA RUBBER WORLD. [Confiding elderly maiden ladies out of town, with $500 or more to invest, preferred.]

But a few persons interested in "Pacific Rubber," in different parts of the country, did happen to see THE INDIA RUBBER WORLD, and wrote and telegraphed to No. 66 Broadway, New York, for explanations. It would be interesting to know what the "Pacific Rubber Co." had to say in reply.

THE ECCLES RUBBER AND CYCLE CO.

A REPORT from Europe is to the effect that this company, located at Eccles, near Manchester, has about completed the reconstruction of its works, burned down several months ago. There was much delay in securing a settlement with the insurance companies, and some troublesome litigation with dealers who sued for damages because of the delay in delivery of balls caused by the fire. The factory is now producing from 70,000 to 100,000 balls per week, and machinery is being laid down for the manufacture of other rubber goods. The unsatisfactory condition of the cycle trade in England has affected the company's business somewhat unfavorably, and unless a very marked improvement should occur in this trade, it is not unlikely that the Eccles company may discard the cycle fittings branch entirely, and devote itself exclusively to rubber.

TURKEY TO HAVE A RUBBER FACTORY.

THE government of Turkey has granted a monopoly for the erection of a rubber factory in that country. Among the privileges granted are exemption from import duty for the machinery, etc., required in the equipment of the works, and also for the raw material used. The latter is an important item, since the tax on all consumption in Turkey is heavy. Besides the other government requirements in rubber, the company will get the contracts for the army for galoshes, and about 150,000 waterproofs per annum. The galoshes at present used in Turkey are imported almost wholly from Russia and Germany, waterproofs from England, Germany, and Austria, and other rubber goods mainly from Austria and Germany. A report of French origin, some months ago, estimated the total trade of Turkey in Europe in galoshes and waterproofs at over $200,000 per annum. British trade returns show the following values of rubber goods exports to Turkey:

1896.	1897.	1898.	1899.	1900.
$132,730	$193,095	$172,610	$98,270	$63,780

American rubber goods exports to Turkey are confined mainly to overshoes. There were exported direct 8712 pairs in the fiscal year 1898-99 and 7605 pairs in 1899-1900, and it is probable that some American shoes found their way to Turkey through agencies in Europe.

THE LATE HENRY F. DURANT.

IN relation to the mention of the late Henry F. Durant, long the business associate of John H. Cheever in the rubber business, published last month, THE INDIA RUBBER WORLD has been favored by Mrs. Durant with some corrections, which we are pleased to put on record.

"Mr. Durant was born at Hanover, New Hampshire, not at Lowell, Massachusetts. You state that Mr. Durant provided an endowment income of $50,000 for Wellesley College. Mr. Durant was entirely unable to make such an endowment, though of course we would have been extremely willing to do so. Mr. Durant left his property for the use of his wife during her lifetime, and a sum for his brother's use, and for his brother's daughter, during their lives, all to revert to Wellesley College at their death. Most of the estate was in the New York Belting and Packing Co., which in the reorganization was swept away. Mr. Durant died at Wellesley, Massachusetts, October 3, 1881, not in Boston, October 2.

"Mr. Durant and Mr. John H. Cheever were devoted personal friends from the time they met in early life till parted by death. Mr. Durant's opinion of Mr. Cheever was expressed in his closing days, when, in sending his last message of affection to Mr. Cheever, he said: 'I never knew John to do a wrong thing.'"

THE Isthmus Plantation Association (Milwaukee, Wis.) began transplanting rubber from the nursery on June 21. The seeding of a new rubber nursery had been begun on June 13.

OBITUARY.—STEPHEN BALLARD.

STEPHEN BALLARD, who died at his home in Brooklyn, New York, on August 11, was a native of Andover, Massachusetts, where he was born 86 years ago. After having demonstrated his capacity as a business man nearer home, he removed, in 1858, to New York, where he engaged in the leather belting business as a member of the firm of Stearns & Ballard. Their office and store were in Pearl street, in the Harper & Brothers building. Later Mr. Ballard conducted the business alone, under his own name, then as Stephen Ballard & Co., and finally as the Stephen Ballard Rubber Co., a line of belting and other goods in rubber having been added to the business. The latter name was adopted in 1883. In September, 1897, the business was incorporated under this name, in New Jersey, at which time Mr. Ballard retired. The president and secretary of the corporation is Silas B. Brown, who had been associated with Mr. Ballard as a partner. The business was, at various times, conducted at several different numbers in Chambers street. Mr. Ballard was the organizer of the White, Porter & Paige Manufacturing Co., in the lumber manufacturing business, in Brooklyn, and was the treasurer of that company at the time of his death. But his chief interest for many years had been in philanthropic work. He was the founder of the Ballard School for Colored Persons, at Macon, Georgia, where thousands of young people have been provided with an education during the last fifteen years. He was a liberal contributor to many other institutions, educational, religious, and charitable. He was a member of the Central Congregational church. He was twice married, but leaves neither widow nor child. Funeral services were held at the late home of Mr. Ballard on the evening of August 12, by the Rev. Willard P. Harmon, of the Central church. The interment was in his native town of Andover. Mr. Ballard, by his will, left his estate to various institutions in which he was interested, after making specific bequests to a surviving brother and sister, and to his housekeeper. The portrait above appears through the courtesy of the Brooklyn *Eagle*.

STEPHEN BALLARD.

JAMES LYALL.

JAMES LYALL, president of J. & W. Lyall, cotton manufacturers, died at his home in New York, on August 23, aged 65 years. He was born in Scotland, was brought to the United States in childhood, and devoted his life to the cotton industry, in connection with which he made many important mechanical inventions. His firm are owners of the Brighton Mills, located for many years in West Twenty-third street, New York, and since January 1 last, at Passaic, New Jersey. The Brighton Mills have been the largest producers in this country of tire fabrics, and the firm came in close contact with a certain portion of the rubber trade through coöperating with it in the development of the pneumatic tire industry.

RUBBER INDUSTRY IN MASSACHUSETTS.

THE Massachusetts bureau of labor statistics has issued a comparison of returns for 1899 and 1900, from a great number of factories reporting for the two years. The report is not a complete census of Massachusetts manufactures, but it is sufficiently full to indicate the tendency of changes in industrial conditions from year to year. Forty two rubber factories give returns comparing as follows:

	1899.	1900.
Capital employed	$11,817,027	$11,804,952
Value of stock used	$14,556,071	$13,661,362
Amount paid in wages	$ 3,898,556	$ 3,555,633
Value of goods made	$23,838,400	$22,863,098
Average number of employés	9,223	8,608
Average yearly earnings	$422.70	$413 06
Average number of days in operation	269.46	265.72
Proportion of business done to capacity	71.18	63 77

While the figures in this report are presented without comment, it may be mentioned that they conform to the indications already pointed out in THE INDIA RUBBER WORLD, that, considering the rubber industry in the United States as a whole, 1899 was a "record" year, the results of which were not equalled in the following year. The following comparison of average yearly earnings in rubber factories in three States in 1899 is also gained from the Massachusetts report:

Massachusetts.	Connecticut.	New Jersey.
$422 70.	$481.70.	$431.31.

The complete report of the Massachusetts state census for 1895 is now published. Seventy-six rubber manufacturing establishments are taken into account, but some of these could not have been very important. The figures for 1895 follow:

Capital employed	$12,038,874
Value of stock used	$15,588,553
Value of goods made	$24,967,119
Amount paid in wages	$4.555,991
Average number of employés	10,504
Average yearly earnings	$433.74
Average number of days in operation	270.3
Proportion of business done to capacity	62.67

THE NEW MEXICAN RUBBER PLANT.

A CORRESPONDENT of THE INDIA RUBBER WORLD writing from Saltillo, state of Cuahuila, Mexico, says that Dr. Juan Cabello Siller, of that city, is trying to form a company to erect a factory for extracting the product of what is known locally as the "guallule" plant, being the same as the shrub described as "hule" in THE INDIA RUBBER WORLD of June 1, 1901 [page 264]. It is understood that the free importation of all necessary machinery will be allowed by the government, with exemption from taxes for five years. This new Mexican rubber producing plant will be exhibited at the Texas state fair, at Dallas, this month. A factory is already in operation for utilizing this plant, at San Luis, in the state of San Luis Potosi, Mexico, which has been referred to in this journal.

A TRAY made of rubber for flower pots has the advantage that it does not scratch or mar any wooden surface upon which it may be placed, as is likely to happen in the use of earthenware or fiber trays. Such an article is made in different sizes to retail at from 8 to 15 cents.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE writer of "Heard and Seen in the Trade," quotes a manufacturer who speaks in an optimistic tone with respect to the position of the American trade. "Every day," he says, "new uses for rubber arise and there is room for half a dozen new factories." Perhaps for a country like America, which has not yet to send a surplus population to seek a footing elsewhere, the trade is susceptible of development; over here, however, the more astute manufacturers opine that in contradistinction to the starting of new factories a boon would be conferred on the trade if some of those now in existence were to be damped down, to borrow a metallurgical expression. "Not only have we too many factories for the trade that is to be done," said a man whose opinion carries weight to me, the other day, "but we suffer a good deal from the inclusion in the trade of men whose antecedents and training point to their being seen to more advantage in other spheres of life." He emphasized his remarks by mention of individual names which cannot, of course, be reproduced here, in fear of the thin thread by which the law of libel is suspended over the editorial head snapping in twain. No doubt, however, there is much truth in the observation. A certain director once laughingly said to me: "I am like the fly in amber. I don't know however I got into my present position." It would be an interesting, though invidious, study to examine the qualifications other than family influence or financial position which are possessed by those who rule the destinies of our rubber works; much light might be thrown by such an investigation upon the apparently obscure causes which have tended to bring about the divergent financial results which are so strikingly exhibited in the balance sheets of the different factories. It would, however, be an unwarrantable intrusion into private affairs to carry any such suggestion into practice; at least that is the view of the matter which would be taken on this side, even in the present year of grace, when certain features of transatlantic journalism at first violently jibbed at are now placidly accepted as a matter of course, if indeed they are not eagerly anticipated.

POSITION OF THE TRADE.

I UNDERSTAND that Messrs. James Bertram & Son, Limited, of Leith Walk Foundry, Edinburgh, are supplying the double-acting, or three roll, mixing mill patented by Mr. Joseph Thomas Wicks to some rubber factories. It is claimed that the use of a three-roll instead of the ordinary two-roll machine effects a considerable saving of time, and therefore of cost of labor, the saving in fact being estimated at 50 per cent. The increased power necessary for driving is said to be very slight, though this must not be left out of consideration in calculating the comparative efficiences of the old and new systems. The claim is made that the saving in labor will during the first year pay for the increased capital outlay. I hope to be in a position before long to say more upon these points from personal observation; certainly the more the time of mixing is shortened, provided that the work is properly carried out, the better for the rubber, for there can be no doubt as to the reduction of tensile strength and power to resist decay that is brought about by over-mastication. Mr. Wicks has also allowed his inventive genius to expand in other directions, though space does not permit of more than a bare notification of one other patent—that for jointless moulded air tubes for pneumatic tires.

WICKS'S PATENTS.

THE last few years have seen the erection of four or five naphtha recovery plants in English rubber works. It has long been a moot point whether this capital expenditure was really justified, but from the results obtained in the most recent of these plants there can be little doubt that the departure is amply justified. Modern practice, largely permeated by the essence of experience, has effected improvements giving an economy in working which was not obtainable in the case of plants erected over twenty years ago. One of the oldest of such plants was that put up by Mr. Quin, at the Leyland Rubber Works, but it is doubtful if it every really proved itself a success. Messrs. Moseley had also for many years a plant of a somewhat unique character which gave fairly satisfactory results, though this has recently been replaced by one of more modern type. It may be mentioned that the recovery figures obtained in England all refer to ordinary solvent naphtha, and not to any light spirit. There is no reason to suppose that plant could not be designed to deal with this latter, but in proportion as the first cost of the spirit is lower, so the expense of the recovery plant would be higher, not only in capital expenditure but in the regular coal bill. It depends largely upon the circumstances of the factory whether the use of such plant is advisable or not, and each case must be judged on its merits. What has been done of late years in this direction, however, must be taken as proof positive that the scepticism which prevailed in former times as to the economy of recovery plants is unwarranted under the changed conditions of to day. It may be taken for granted that the naphtha distillers do not view the increase of recovery plants with unfeigned bliss.

NAPHTHA RECOVERY IN RUBBER WORKS.

THE report on Uganda recently presented to the House of Commons by Sir Harry Johnston, the Commissioner, touches at some length upon the prospective rubber exports. *Landolphia* and allied plants are said to abound over about one-fifth of the protectorate, and the rubber is said to be valued at from 2 to 3 shillings per pound. He is against the granting of concessions to individuals or associations, for the present, at all events, advocating rather that the natives should be allowed to collect the rubber and sell it to all and sundry, under proper supervision. I rather suspect that the proper supervision will be found the difficult part of the arrangement, but to let that pass. He is also in favor of a reasonable maximum price being charged by the natives to the buyers, 9 pence a pound being his suggestion as this limit. This proposal seems to initiate a new departure, and it will be interesting to see how it is received by those primarily interested.

RUBBER IN UGANDA.

As far as the India-rubber trade is concerned, in this very successful exhibition, there is not only an extreme paucity of exhibitors—the total amounting to three—but an entire absence of anything which calls for attention as a novelty. Without anything to show of an epoch-making character, it is rather difficult for a rubber manufacturer now-a-days to make a show of a character to attract and interest the public, and the expense and time involved in the attempt are recognized as being rather ill-bestowed. If the exhibition is remarkable for novelties in one direction more than another, it is perhaps in the collection of fibers of various sorts from our colonies, and for which it is

GLASGOW EXHIBITION.

sought to find some industrial application. In furthering such objects it seems that exhibitions fulfill one of the main functions which they should seek to serve.

SUBLIMED WHITE LEAD.

I NOTICE that a prominent firm in this manufacture in the United States is now engaged in advocating the use of their product among British rubber manufacturers. It is now some years since the writer experimented with this variety of white lead as a substitute for the ordinary hydrated carbonate, and the trials proving satisfactory, some quantity of it was used in one of our largest rubber works on his recommendation. It may be mentioned that the brand so used was that manufactured by the now defunct White Lead Co., Limited, of Porril Park, Glasgow, the composition being that of sulphate of lead mixed with a small proportion of oxide. Of course the sulphate is incapable of fixing free sulphur, as the ordinary white lead and litharge can, but this did not militate against its use in the particular mixings where it was employed. However, it should be mentioned that the general trend as regards the use of lead compounds of late years in rubber works has been to discard red lead and white lead, and to rely principally upon litharge, so that I do not think there is very much scope for the sale of the American product in this country. A good deal of money was dropped over the Porril Park works, as, in spite of favorable reports from various quarters, it was found impossible to get the large paint users to take up with it permanently. What the position is in America in this respect I do not know; it certainly was hinted that 'vested interests had something to do with the difficulties in which the British company found itself.*

DENTAL RUBBER.

THIS trade is probably not at all a large one, as far as actual bulk goes, but the wholesale dental supply firms manage to get a pretty good profit from their customers. I am not in the secrets of the business, but I don't suppose that the rubber manufacturers come so well out of it as the middlemen do. The two principal classes of goods are the pure rubber sheet, professionally known as the "dam," which is applied to the mouth of the victim during the operation of stopping, and the unvulcanized compound rubber which forms the frame work for artificial teeth, the curing being effected on the dentists' own premises. The principal dentist middleman is the old-established firm, Claudius Ash & Co., recently converted into a limited company under the title of the Dental Manufacturing Co., of London, Manchester, and Dublin. A recent novelty is a rubber dam having one side covered with aluminium powder, so as to give a better light to the dentist during his operations, though it does not seem that the special advantage is universally recognized. It cannot be said that the average dentist, though he has to work a good deal with rubber, has any real knowledge of the substance or its manufacture. In one respect, at least, the advertising American dentist, who is not very kindly spoken of by his British brethren in those towns where they are established side by side, seems to show more cuteness than his confrère. I refer to the prices he pays for his materials. In buying rubber compound at a lower price than the British dentist does he may, as the latter suggests, get a very inferior compound, but at the same time it is possible that he gets very much the same stuff without paying any middleman's profit. However, it is beyond my purpose to pry needlessly into professional secrets, and the excuse for referring to the subject at all is that these notes are intended to be of an all-embracing character and to include in their scope any of the multitudinous purposes to which rubber is put.

PERSONAL MENTION.

I REGRET to record the death of Mr. Harry Heaton, Sr., the founder of the original Capon Heaton & Co. rubber works, at King Horton, Birmingham, now the Tubeless Pneumatic Tyre and Capon Heaton, Limited—a firm which after an unsatisfactory life of a few years, is at present being carried on by the liquidators. Mr. Harry Heaton, Jr., managing director of the Gorton Rubber Co., Manchester, is a son of the deceased.——Mr. Pratt, recently works manager of the St. Helens Cable Co., has now severed his connection with that firm.——Mr. David Moseley, of Manchester, having recovered from his long and severe attack of typhoid fever, has now returned to business.——I regret to record that Messrs. H. H. Royle & Co., Limited, of Manchester, have found it necessary to call a meeting of their creditors. The business is a comparatively new one, having been started but eighteen months ago, and it was concerned with making up waterproof garments, mostly of the rainproof type.——Mr. Jones, whilom manager for McLellans, of Glasgow, and the Fowler Waring Co., of North Woolwich, is now engaged by the Volenite company at their works near Wembley, where it is said he is bringing out a new compound. Certainly, to judge by the very moderate degree of success which "Volenite" attained, there is room for improvement, but I shall not, I imagine, be alone in adopting a sceptical attitude towards the new compound also in the light of the numerous similar cases in the past where realization has fallen far short of anticipation.

BUSINESS EMBARRASSMENTS.

THE old established private company of Broadhurst & Co., Bradford, Manchester, had to call a meeting of creditors on July 24, the result being the appointment of a committee of inspection. At the same time the affairs of Messrs. C. H. Scott & Co., the rubber substitute and chemicals manufacturers, were enquired into, Mr. James Robinson being the moving spirit in both concerns. The rubber firm of Broadhurst has a life of over thirty years, and it is to be hoped that means will be found by which the firm can emerge from their present difficulties. With regard to Scott & Co., the pioneers in the substitute industry, it cannot be expected in these competitive days that the era of prosperity existing in the life time of the late Mr. Samuel Scott will be reproduced. The fact seems to be that the rubber substitute and recovered rubber business is overdone, that is as far as those dealing in these commodities are coucerned; the rubber trade doubtless looks leniently upon the internecine competition now existing as conducive to their own advantage.

CELLULOID.

THE British Celluloid Co. are reported to have selected a site in the vicinity of Swansea for their works. I don't know whether the popular game of ping pong has enhanced the prospects of the manufacture, but a good deal of celluloid in the form of rackets and balls must be used up in connection with this novel pastime.

A RECENT decision of the United States general appraisers at New York, in relation to an importation of Chatterton's compound, held it to be dutiable as merchandise composed in chief value of Gutta-percha—at 35 per cent. *ad valorem*—and not as a chemical compound, as claimed by G. W. Sheldon & Co., importers, of Chicago.

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*Our correspondent's view of the uses of sublimed lead is exceeding interesting, as reflecting the present attitude of English rubber manufacturers toward all forms of lead. In a measure, the practice in England is similar to that to-day employed in the United States. That is, white lead, pure and simple, is not used in nearly the quantities that it formerly was, whereas, litharge is very generally used. But at the same time, sublimed lead has created for itself a large and very important place among American manufacturers, and there is no doubt but its intelligent introduction abroad will result in a very large increase in its consumption. —THE EDITOR.

SOLUBILITY OF CAOUTCHOUC AND GUTTA-PERCHA.

*By Dr. Theodor Koller.**

DILUTED acids and concentrated alkalies do not attack Caoutchouc, either at ordinary or at raised temperatures. Concentrated sulphuric acid decomposes it, likewise concentrated nitric acid. Six parts of fuming nitric acid give, with one part of Caoutchouc, a solution, with effervescence, which is precipitated in a flocculent state by water. When Caoutchouc is digested for some time with spirit of sal-ammoniac, it passes into an emulsion-like condition, and gives a liquid with it, which leaves pure Caoutchouc upon evaporation. Neither cold nor hot water dissolves Caoutchouc, though boiling water extracts from several varieties some resinous substance. In warm water it becomes very soft, and swells considerably, making the whole mass more accessible to solvents, but prolonged exposure to the air restores it to the former state.

Payen found that a thin disc of Caoutchouc upon lying in water for thirty days absorbed 18 to 26 per cent. of water, and that in case of an absorption of 18 per cent. its volume increased 15.75 per cent. and its length 5 per cent. Absolute spirit of wine penetrates Caoutchouc still more rapidly, especially when it is repeatedly heated with it to ebullition. The weight of the piece increased 18.6 per cent., the volume 9.4 per cent., the length 4.6 per cent., the spirit even dissolving 2 per cent. of the Caoutchouc besides. In ether, turpentine oil, and a mixture of 100 parts of carbon-sulphide and 4 parts of absolute spirit of wine, it swells up to 27 times its volume; in a mixture of 6 volumes of anhydrous ether and 1 volume of absolute spirit of wine to 4 times its volume; in rectified coal-tar oil up to 30 times its volume. Ether, benzine, carbon-sulphide and turpentine oil quickly permeate Caoutchouc and cause it to swell up strongly, a portion being dissolved, but tenaciously held back by the insoluble one, so that for extracting it large quantities of the solvent are required. According to Payen, Caoutchouc soaked in carbon-sulphide dissolves rather quickly in spirit of wine. In 6 to 8 parts per 100 parts of carbon-sulphide it is again precipitated from this solution by admixture of double the quantity of spirit of wine, but it encloses much carbon-sulphide and spirit of wine, so that it subsequently dissolves again. By repeated precipitation and re-dissolution it can be obtained in a transparent solution free from dyestuff, and the other substances occuring with it. Parkes recommends as dissolvent the liquid, which is obtained when sulphurous gas is conducted over camphor until the latter has deliquesced entirely. In fats, volatile and unctuous oils it also swells up considerably, dissolving in many; it dissolves very well and easily in Caoutchouc oil obtained by the dry distillation of Caoutchouc.

As a rule, Caoutchouc is dissolved by lavender oil as well as by turpentine oil, but by linseed oil only when warm. Bouchardat has made the observation that turpentine oil, by repeated distillation at a higher temperature, alone or over bricks, undergoes a change, which renders it far more suitable for the dissolution of Caoutchouc. With all dissolvents attention should be paid to an absolute freedom from water; it is also advisable to dry the Caoutchouc for some time, before the dissolving, and very commendable are a previous boiling with soda solution or caustic soda lye and careful washing and drying. Most solvents do not dissolve the Caoutchouc completely. If a complete dissolution of the Caoutchouc is effected at a higher temperature it suffers a decomposition, the solutions do not contain unchanged Caoutchouc and on evaporating leave behind a mass of softer consistency and absolutely different qualities, so that it dries only with difficulty, even in thin layers.

According to Hanausek, oil of turpentine and coal benzine are especially good solvents for Caoutchouc; 100 parts of oil turpentine or coal benzine dissolve about 4 to 5 parts of Ceará rubber, 5 parts of negroheads, 4.7 of Sierra Leone rubber.

The most suitable solvents are ether (free from alcohol), chloroform, carbon sulphide, coal benzine, and purified turpentine oil. For industrial purposes solutions in ether are useless. Turpentine oil only dissolves when very pure and used hot. To prevent the viscousness of the solution, 2 parts of turpentine oil has to be worked together with 1 part of Caoutchouc into a thin paste and ½ part of a hot, concentrated solution of potassium-sulphide added. When the yellow liquid has thickened, the Caoutchouc remains perfectly elastic and is not viscous. If it is desired to unite pieces of Caoutchouc, the best solvent is coal benzine, but the odor remains perceptible for a long time. Chloroform being too expensive for ordinary use, carbon sulphide is the best dissolvent. The solution dries quickly owing to the volatility of the solvent. When alcohol is mixed with the carbon sulphide, it does not exercise any dissolving action, but only renders the Caoutchouc softer and more fit for vulcanization.

The preparation of a Caoutchouc solution is performed as follows: Fill pure Caoutchouc, cut in small pieces, in a spacious linen bag and suspend the latter by means of a thread, in a bottle containing 1 liter of benzine, in such a manner as to completely immerse it. After six or eight days the soluble part of the Caoutchouc (40 to 60 per cent.) has been extracted and the insoluble residue has swelled up to an enormous size, The clear, slimy solution containing 1.2 to 1.5 per cent. of dissolved Caoutchouc is subsequently kept in the dark. In the light the Caoutchouc solution decomposes, becoming quite thinly liquid; even in the dark a change takes place, but much more slowly.

In order to bring the total of the Caoutchouc mass to a solution, Hoffer causes Caoutchouc to swell up in carbon sulphide (the swelling will take place quicker if the well closed flask is allowed to stand in a moderately warm place) and adds, after this end has been attained, 10 per cent. of absolute alcohol for every 100 parts of carbon sulphide. After a few days a complete solution will have formed in the flask, from which, after prolonged rest, all foreign admixtures will settle to the bottom. If the solution is mixed with a large quantity of alcohol, the latter will precipitate the Caoutchouc again in a swelled state, while the foreign bodies remain dissolved. By pouring off the brownish solution from the precipitate, dissolving the latter again and repeating the precipitation several times, the Caoutchouc is obtained free from dyestuff as a perfectly white or only faintly yellowish mass.

It being desired to employ turpentine oil for the preparation of Caoutchouc solutions, the same must be free from water (the Caoutchouc itself may be kept anhydrous by drying it for a week previous over sulphuric acid).

The dehydration of the oil of turpentine is conducted in the simplest manner by shaking the oil with about 10 per cent. of its weight of English sulphuric acid in a well closed flask and leaving

*Translated for THE INDIA RUBBER WORLD from a paper in *Neuste Erfindungen und Erfahrungen*, Vienna, VII Jahrg. (1900), pp. 293-296.

stand until required for use. The sulphuric acid will form a layer on the bottom of the vessel, from which the turpentine oil may be drawn off. In place of the sulphuric acid melted calcium chloride may be employed with equal success. If large quantities of turpentine oil are to be treated it is advisable to rectify it over burnt lime and to pass the vapors of the oil, before condensation, through an almost red-hot iron pipe. This changes the character of the oil, rendering it still more suitable for dissolving Caoutchouc.

Gutta-percha is insoluble in water, dilute acids, and alkalies; it gives off 22 per cent. of soluble substances to alcohol and ether, and swells up in ether and essential oils to a tough paste. It is readily soluble in chloroform, carbon sulphide, benzine, and turpentine oil upon heating. It is little soluble in hot unctuous oils and separates out again after cooling. From the solution in chloroform, Gutta-percha can easily be obtained colorless.

RUBBER ON SHIPS' SCREW PROPELLERS.

THE use of India-rubber for the protection of propeller shafts in steamships against corrosion, first developed in Germany, has extended until the practice has been adopted in the navies of France, Germany, Russia, and Italy, as well as on a number of fast ocean liners. Propeller shafts working in the stern tube under the usual conditions of the presence of salt water, require to be examined frequently and with great care, to detect evidences of corrosion. Besides, the galvanic action between the immense masses of gun metal used in connection with steel shafts, on high speed steamers, eats into the shafts. The average life of a propeller shaft is declared to be less to day than at an earlier period of slower speeds, when iron was used instead of steel, and when shorter and thinner gun metal liners were sufficient. All experience points to the impossibility of absolutely excluding the corroding salt water from contact with the propeller shafts, but there is still another consideration.

The liner of a propeller shaft is a cylindrical casting of dead rigidity, while the shaft in motion, with its thousands of horse power, struggling with the varying load of resisting water, is a living thing, and, like a living thing, it alternately yields and presses forward. Its living work is its resistance to torsion. At the engine end it receives its torsion, which the load of resistance at the propeller end tries to destroy. Hence the movements in the surface of the propeller shaft are sufficient to loosen the gun metal liners, in case they should be joined to the shaft. No amount of soldering or fastening could ever make the dead rigidity of the liner or sleeve follow the movements of the shaft in motion when torsion sets up surface movements between the front end and the rear end of the sleeve. Hence it wonld be desirable to have for the protection of shafts an elastic covering, indestructible by sea water, and chemically combined with the surface of the shaft. It should be of so elastic a nature as to follow all surface movements of the shaft without any tendency to cracking, pitting, or exfoliation. Such a covering is described in the lines following.

At the second annual meeting of the German Naval Architects (Schiffbautechnische Gesellschaft), a paper on rubber in shipbuilding was read by Herr Ed. Debes, director in the Harburger Gummi-Kamm Compagnie (Dr. H. Traun, proprietor). In connection with other subjects, he treated of the use of rubber for the protection of propeller shafts against corrosion, for which a patent was granted in Germany in 1894 to an engineer named Willenius. The invention, as at first tried in the German navy, did not prove successful. The rubber expanded and contracted too much with varying temperature, so that the sea water could get between the shaft and its sleeve. The Harburg company, however, appear to have overcome this difficulty. The application of the elastic sleeve is effected as follows: The rubber used is the company's "Eisengummi (iron rubber) No. 68," with a specific gravity of 1.5, which shows an abnormally high insulation and also remarkable strength. It gains in breaking strength on heating up to 90° Centigrade. This rubber, having been heated upon a spreader until it becomes plastic, is wrapped around the shaft, which has been cleaned with benzine or turpentine. The whole is wrapped with tin foil to exclude all moisture during vulcanization. The steam pressure is raised to about 40 or 50 pounds within an hour and maintained at that figure for about three hours. The vulcanization boiler is then taken off, the tin foil removed, and the shaft is ready for use. The rubber sleeve adheres well, and does not break off under blows, but chains or coral reefs would damage it. It is, however, impervious to salt water, while having sufficient elasticity to counteract the effect of an otherwise rigid shaft acting upon an equally rigid sleeve or lining.

LUGO RUBBER AS KNOWN IN ENGLAND.

LUGO, an artificial rubber, is a product of the United States, in which Mr. O. Lugo, of New York, and Dr. Sharps and Mr. Chase, of Philadelphia, appear to be interested. We rubber manufacturers in England are also interested in this new product, in so far as it behooves us to carefully test it to see if it has any advantages over the materials in present use. The writer has personally made several careful and very minute tests, ranging from 5 per cent. to 30 per cent. of Lugo to the amount of rubber employed.

We find, in taking 25 per cent. of Lugo and all Pará rubber and comparing the result with 25 per cent. of best black substitute and all Pará rubber, that the two results are almost identical. There is really nothing to choose between them. We should keep to the best black substitute for the simple reason that we have known it for years and know what it is capable of. However, when we leave all Pará rubber as above, which is a pure mixing, and change to rubber and powders, introducing Lugo or black substitute in various proportions as the case may be, then we find a remarkable difference. Lugo does not answer so well with powders as black substitute.

Lugo and oxide of zinc appear to be antagonistic. Certainly, in several tests they have not agreed together. In our judgment the oxide of zinc has controlled the Lugo and gone far to decompose it, rendering the cured articles flabby or lifeless. The addition of litharge to the mixing does not prevent this destructive action.

Lugo lacks strength and it wants body. We fail to see the advantage of the process known to the inventor as hydrosaporification; this process seems to be carried too far. The small percentage of glycerine, if left in the Lugo, would do no harm to rubber compounds. There are processes in the rubber manufacture in which a small percentage of glycerine is added, but it is a drug requiring skill and experience in its use.

This is an honest criticism, and the writer would be the last to do anything which he thought might deter Mr. Lugo and his friends from pushing his experiments and inquiries with oil substitutes to a much desired and successful issue.

A FACTORY MANAGER.

England, August 9, 1901.

THE British postmaster general has applied for permission to tear up London streets to substitute lead covered cable for Gutta-percha covered telegraph wires in the postal service.

PLANTING "CASTILLOA ELASTICA" IN OPEN PATHWAYS.

*By Francis Child Nicholas, Ph. D.**

TO THE EDITOR OF THE INDIA RUBBER WORLD: On the rubber estates belonging to The South American Land and Exploration Co., Limited, the following results have been obtained: Rubber trees (*Castilloa elastica*) on the company's property in the Sierra Nevada de Santa Marta of Colombia are now two years old. The company has had the advantage of almost unlimited lands for its operations. The seeds were collected in Costa Rica, and reached the property in fair condition; after their arrival planting was commenced almost immediately. The plan adopted was to cut pathways through the forests by the side of streams, and along rivers. The seeds having sprouted before they reached the property, there was urgent necessity to plant in haste.

The seeds were put in the ground about the middle of June, 1899, and the paths were cut with a view of maintaining a deep shade to protect the young trees for the first four months, July, August, and a part of September, being dry and hot in that region. It was intended, when the autumn rains should set in, to cut away overhanging trees and underbrush for the purpose of providing sufficient sun and plenty of air for the development of the young trees. Where the seedlings were too close together, cross paths were to have been made for transplanting. Before these plans could be carried out, the civil war, so lately disastrous in Colombia, made it necessary to suspend operations, and for eighteen months the young rubber trees were almost abandoned. The only thing that could be done was to clean away the dead leaves, which, falling from surrounding trees, threatened to smother the seedlings; but even this work was not thorough, and for months at a time the young rubber trees were without any care.

Work was resumed on the company's plantations during the spring and early summer of the present year, and is now being regularly carried on. It was found on cleaning up the rubber plantations that, while losses had been heavy, there were thousands of young rubber trees, and that some of them were doing remarkably well, showing the first developments of that enormous length of trunk, found among trees of the forest which have grown upward until the sunlight above the woodlands has been reached—a condition that produces a great length of trunk for bleeding, promising pounds of rubber where less favorable trees would yield only ounces. Many varied conditions of development were found at the company's plantations, the most important being as follows: Trees on moist, but not wet land, where the surrounding forests had been opened to allow a fair amount of sunlight, but not enough to burn the young trees, were the best. At such places many of the trees presented a growth sufficiently vigorous to promise the development of strong rubber producing trees without any further attention. After these the most favorable were those trees growing on moist land, but with the sunlight and free circulation of the air impeded by the surrounding forests; these, however, were doing well, and while their growth was not phenomenal, it was very satisfactory. Trees showing a rather unfavorable development were those on moist ground but too much in the open sun. Growth had been vigorous, but there were too many sunburned buds to give much promise of successful maturity. Of very poor development were trees growing in rather dry places in the hot sun. Many of these were dead; the few that remained were very small, some being only two or three inches high. Of very bad appearance were those trees which were on rather dry land in the deep shade, almost entirely cut off from the sun. Nearly all of these were dead; among the very few remaining alive none were vigorous, many had not progressed beyond the first stages of growth, though wood was forming where the tender shoot had been; they were simply dwarfed trees, that had never progressed after the cotyledons had been absorbed.

It appears from these results that, under ordinary circumstances, the *Castilloa elastica* requires for its best development damp soil, open shade, and some sunlight. The best trees on the plantations of the South American Land and Exploration Co., Limited, at their Sierra Nevada de Santa Marta properties, are on rather damp land, and have had about one hour's full sunlight each day. The very favorable results that have been obtained on these plantations, after subjecting them to nearly eighteen months' abandonment, is to my mind strong evidence that the best method for planting *Castilloa elastica* is along open pathways through the forests, which enable the planter to make an adjustment of shade and sunlight suitable to the special requirements of the locality selected for planting; and further I am fully convinced that to clear all the land and keep it clean is a useless expense, that a series of pathways intersecting at right angles will give quite as many trees to the acre as on cleared land; and, that under some climatic conditions at least, too much sun will burn the tender buds of young rubber trees; and, influencing older trees, will harden the bark, thereby checking the flow of *latex* through the ducts, which in *Castilloa elastica* are just under the bark; a condition which when the bark is too hard may impair the tree's capacity to produce rubber.

While I advocate open pathways for *Castilloa elastica*, justice to all conditions requires a brief notice of results obtained at plantations in Jamaica, owned by the same company. These plantations are in Portland parish, where rains are excessive, the ground usually saturated with water, and penetrating fogs are frequent. Here the most vigorous among the young rubber trees are those where there is an abundance of sunlight. At places where there is some shade, the trees are vigorous and healthy, but are not so large as those in the more open places; their leaves are a deeper green, and perhaps they are rather more healthy than those grown in the sun. Trees which were planted where there is a very limited amount of sun, are straggling and unhealthy. In the few places where there is little, if any sun, the trees are nearly all dead.

The advantages of open pathways were demonstrated in Jamaica; for, on my last annual inspection of the company's properties, it was a simple matter to order that overhanging branches should be cut away to provide sufficient sun to meet the requirements of this region, and at present all the company's trees in Jamaica are growing vigorously.

These results furnish strong evidence that *Castilloa elastica* requires an adjustment of sunlight and shade, varying with the

* The writer of this article has previously contributed two papers to THE INDIA RUBBER WORLD, as follows: "Some Recent Developments in Rubber Cultivation" [October 1, 1898,—page 337], pointing out his reasons in behalf of the method of planting, the results of which are here noted, and "Transportation of Seeds of the *Castilloa elastica*" [April 1, 1900—page 180], recording his experience in conveying such seeds from Costa Rica to Colombia.—THE EDITOR.

climate, and the geological conditions of the region that has been selected for planting. Whether the best means of providing this adjustment is to be found in open pathways, is, perhaps, not fully proved; but at any rate they have given good results at the plantations which are being developed under my direction.

AN OLD SWINDLE RECALLED.

ONE of the first, and about the biggest, of the frauds which have been evolved in the name of rubber planting—"India-Rubber (Mexico), Limited"—is still mentioned now and then in connection with meetings that are to take place, but never do. London *Financial Times* says: "Only a little longer, and there will be nothing to meet about." Adolpho Keul, former manager of the company's estates, writes to the *Mexican Herald:* "India-Rubber (Mexico), Limited, has not entirely given up the Llano Juarez estate [as stated in the London paper]. They only stopped work, and are now breaking up the land for the purpose of leasing it out. The improvement of the Esmeralda estate continues without interruption." But this is small satisfaction for the confiding English public, which bought the company's shares four years ago, on the promise that by this time there would be marketed, from trees then mature, rubber worth $3,497,495—and that mostly profit.——A circular had been issued to the stockholders of India-Rubber (Mexico), Limited, inviting them to a meeting on August 30, to consider a voluntary winding up of the company. Prior to that date, a Mr. Peat had been appointed receiver and manager of the company, on the petition of the debenture holders. The company had never paid a dividend and they were unable to pay the interest on debentures for the first half of the current year. Hence the motion of the debenture holders, to protect their interests.

PARA RUBBER IN THE MALAY STATES.

THE fourth annual report of the United Planters' Association of the Federated Malay States, for the year 1900, comes to THE INDIA RUBBER WORLD from Kuala Lampur, in Selangor. It expresses encouragement with regard to the prospect for Pará rubber (*Hevea Brasiliensis*), the committee stating that they "feel that the large number of trees, amounting now to several millions, planted in the Federated Malay States, must in the not very distant future, prove a source of revenue which will very largely recoup the planters for the losses which they have sustained through the decline in value of Liberian coffee." The average circumference of such trees, at three years at three feet from the ground, is stated at about 16 inches. In two years a Pará rubber tree in the botanic garden at Penang, being fifteen years old at the second tapping, yielded 12½ pounds of rubber, "without any apparent injurious result to the health of the tree." The size of these trees, more than the age, is considered to indicate their fitness for tapping, "and probably a circumference of 30 inches at 3 feet from the ground is the limit at which attempts to extract the rubber should be commenced."

RUBBER FROM "LA ZACUALPA."

THE picture on this page is from a photograph of an exhibit made by La Zacualpa Rubber Plantation Co. at the Mechanics' Pavilion, San Francisco, during the Epworth League convention, July 15-20. It embraced the shipment of cultivated rubber from the company's plantation in Mexico, mentioned in the last INDIA RUBBER WORLD. There were shown bales of crude rubber, washed rubber in rolls, samples of the rubber vulcanized by the Bowers Rubber Co., sections of ten year old planted rubber trees 18 inches in diameter, photographs of scenes on the plantation, Mexican articles of dress worn on the plantation, and curios. The exhibit was seen by thousands of persons, and was examined with much interest.

RUBBER FROM LA ZACUALPA PLANTATION.

TEHUANTEPEC RUBBER CULTURE CO.

[Plantation Rubio, canton of Manatitlan, state of Vera Cruz, Mexico. Offices: No. 35 Nassau street, New York.]

A REPORT to the bond subscribers issued August 5, signed by President H. W. Bennett, states that progress made in placing the company's first mortgage bonds, which provide the funds required for the plantation development, has been most satisfactory. The bonds have been placed, for the most part, with people accustomed to close scrutiny of investment securities. It is mentioned that among the subscribers are fourteen large rubber manufacturers in the United States. Work on the plantation has made good progress, under the plantation superintendent, A. B. Luther. It is promised that further progress reports will be issued every three months. A temperature record is given for July, showing that the average of the highest temperature on the plantation for each day was 84°, and the average lowest temperature for each day, 72°. The highest figure reached was 88°. The daily average rainfall was $\frac{7}{16}$ inch, or a total for the month of 21.7 inches.

* * *

C. B. WAITE writes in *Modern Mexico* for May that while crossing the state of Palenque he stopped at the estate of the Chiapas Rubber Plantation and Development Co., on the river Michol, where he found 3000 acres cleared for planting rubber, 250 acres planted, and 300,000 young trees in the nursery.

NOT MUCH OF A RUBBER MONOPOLY.

THE English *India-Rubber Journal* devotes a good deal of space to what it terms information of "an astonishing character," to the effect that the Acre district, lately in dispute between Brazil and Bolivia, and reported to be rich in rubber, "has been acquired by one of the most powerful financial groups in America, who will practically stand possessed of all rights, with the Bolivian government as partners." The suggestion is hazarded that this group of financiers is not "entering into this agreement for philanthropy." Conversely, its intention must be to make consumers pay all that can be forced out of them for rubber.

The suggestion comes to THE INDIA RUBBER WORLD from nearer home that, even if a company should be formed to receive and handle all the rubber coming from the river Acre, the effect upon the general market would be unimportant. "No doubt," it was said, "the Acre district is rich in rubber, for the greater part is still unworked. But the scarcity of native labor there, and the difficulty of securing rubber workers from the outside, will prevent the possibility of any great increase in production in the near future. By the utmost effort, 1200 tons of rubber might be got out of this district in a year, but what would that amount to, in the total production of 26,000 tons in the whole Amazon valley? Either this rubber would be sold in the open market, or it would be sold to consumers, who to that extent would not be buyers elsewhere, but in any event the market would not be controlled. This rubber formerly was termed 'Bolivian,' though now the cases are marked 'Acre-Bolivian.' The quality is inferior to the rubber from the river Purús. It now compares with the rubber which came formerly from the Purús, but the rubber from the latter river has in time become improved, through better working."

From the same source as the statements just quoted is the assertion: "There might be a greater increase in the production of rubber in new districts in the Amazon country if prices were more stable. For instance, if there were any assurance that fine Pará would remain, in New York, at $1 per pound, or in Pará, at 10 milreis per kilogram, it would offer an inducement for preparations on a large scale, for continuous operations, and permanent arrangements could be made for the employment of the Cearenses who now drift back and forth between the Amazon and their own province, according as the chance for earning money seems best in one place or the other. But rubber is now away below these figures, and when prices rise again, no man can foresee how long they will remain high.'

BRAZILIAN EXCHANGE AND RUBBER.

IN the last INDIA RUBBER WORLD was noted the gradual tendency, in late years, of the Amazon rubber output to become larger during the second half of the crop season, owing to the continued extension of rubber gathering into more remote districts. The *Brazilian Review* remarks that this has "an important bearing on exchange, as was evidenced this year in March, when the enormous shipments of rubber swelled the supply of ready bills to an extraordinary degree and, with the aid of speculation, drove exchange up to 14½*d*. There seems every probability of this year's conditions being renewed, and that the large shipments to be expected from February to March will, in future, provoke an annual upward movement of exchange, similar to that which generally accompanies the coffee movement from May to June."

The rate of exchange in Brazil is not of immediate concern to rubber consumers, since it does not regulate the price of rubber. If rubber stocks are liberal, and manufacturers are not active, prices will be low, and *vice versa*. In the last analysis, supply and demand fix the price paid by consumers. But the rate of exchange—*i. e.* the price in pence of the Brazilian milreis—is of great concern to the handlers of rubber in the earlier stages of its movement from the forest to the factory. The rubber producer or collector who offers his year's output when the exchange value of the milreis is 12 pence, will receive fewer milreis by 25 per cent. than if the rate were 9 pence. The price of rubber in England or at New York is the same; the Brazilian gets less for it in the currency of his country. And if the Brazilian is very hard hit, by reason of a sudden rise in exchange for which he is unprepared, or if many Brazilians are hard hit, it may demoralize their business to an extent which will render the next season's rubber crop a more uncertain quantity than otherwise would be the case. It is then, if at all, that the consuming trade feels the remote effect of exchange fluctuations.

It would seem that, as a rule, the rate of exchange would be guided by fixed laws of trade, so that when rubber was selling at a certain price at New York, the producer would get about so much for his crop. But so long as Brazil has an unstable currency, the rate of exchange can be manipulated as readily as the price of steel shares in Wall street, and *The Brazilian Review* does not hesitate to call names and charge that there are banks in Brazil that gamble in exchange as recklessly as anybody. Indeed, it asserts that "if the banks would only refrain from issuing speculative paper, there would be an end of speculation." One bank manager—in the Bank of the Republic itself—is charged with having boomed rates "like a very bucket shop."

LOST IN BRAZILIAN WILDS.

THE Fort Scott (Kansas) *Monitor* of recent date contains the details of the hardships experienced by a party of young men from that and neighboring towns, sent to Brazil by the Price Mercantile Co., of Kansas City. Two years ago the original expedition set out, to hunt rubber in the state of Mattogrosso. This party having been reported lost, a relief expedition was organized, under Frank Greenfield, whose brother was one of those missing. The *Monitor* prints several letters written by Frank Greenfield to his family, stating that, having become convinced that the original party were no longer alive, and that their remains could never be traced, he joined a government surveying party. Their work in trackless forests was most arduous, they were often without suitable food and sometimes for days without anything but wild meat, besides which they suffered from fevers. The family have learned that Greenfield died March 29, about 60 miles from Cuyaba, in Mattogrosso, while on his way to headquarters for provisions for his party, the other members of which were too much exhausted to travel. Greenfield is believed by his family to have acquired some concessions for gold and diamond mining, and a third brother has taken steps to interest the United States government in aiding him to have these concessions confirmed and extended.

RUBBER SHOE HEELS.—There has been apparent of late, in certain quarters, a demand to have rubber heels put on leather shoes at the factory, on account of the bother in having the leather heels replaced with rubber by cobblers. The Boston *Superintendent and Foreman* says that some shoe factories are now turning out shoes with rubber heels, but that no satisfactory machine has yet been invented for attaching these heels.

THE LARGE MOVEMENT OF RUBBER SCRAP.

FOR several years past it has been evident that the total amount of crude India-rubber (excluding Gutta-percha) embraced in the official statistics of the leading commercial nations was greater than could be accounted for by adding together the output of the different countries producing rubber. This excess doubtless would be accounted for if a separate classification were adopted at the European custom houses, as has been done in the United States, for rubber scrap and reclaimed rubber. But without such classification, some important facts bearing upon the question may be arrived at by an analysis of European official figures. For example, the British import returns have long embraced "Caoutchouc" from Russia, though it is well known that England does not receive any crude rubber from that country. The imports of "raw Caoutchouc" credited to Russia in the latest British returns have been as follows:

	1896.	1897.	1898.	1899.	1900.
Pounds.....	1,016,624	988,512	2,311,120	2,196,992	4,260,928

All of these amounts are clearly old "galoches," and were they entered as such, the result would be a material modification of the returns of the crude rubber movement in England. A similar condition exists with reference to German statistics of rubber imports. In the latter country crude rubber is reported to be received, not only from Russia, but from several other European countries, not one of which is likely to be an exporter of this material, as follows:

From—	1898.	1899.	1900.
Russia.....pounds.	1,546,160	7,267,260	4,061,420
Finland.....	....	55,000	255,420
Denmark.....	....	64,240	134,860
Norway.....	53,240	130,020	390,440
Sweden.....	120,560	439,780	843,260
Austria-Hungary	...	118,800	189,860
Turkey.....	192,500	174,020	240,900
Total	1,912,460	8,249,120	6,122,160

The next comparison relates to the German returns of India-rubber exported to the United States during the three past calendar years, and to the United States returns of rubber imported from Germany in the same period—weights in pounds:

	1898.	1899.	1900.
Exports reported by Germany.....	3,041,060	8,319,300	5,912,320
Imports reported by United States...	1,716,521	2,110,969	1,428,339

It may throw some light upon this wide discrepancy to give here a statement of the imports of "old" or "scrap" rubber credited to Germany by the United States for the past three fiscal years, no details being now accessible for the calendar years in question:

	1897-98.	1898-99.	1899-1900.
Pounds.....	2,857,606	3,560,065	9,810,311

No doubt, if the figures at hand permitted a closer adjustment of the periods of time under comparison, it would be found that the total exports of rubber from Germany to the United States would be found to balance pretty closely the combined imports credited to Germany by the United States for crude rubber and scrap. As indicating the importance of reckoning separately with scrap rubber in calculating the world's movement of rubber, a table is given on this page, showing the imports into the United States for ten years past of scrap. The total for the last fiscal year reached 19,093,547 pounds—a figure approximating to 20 per cent. of the probable total production of crude rubber for the period under review. And it is worth while to point out, not only that upwards of 16,500,000 pounds of this material was derived from Europe, but that the greater part of this heavy volume figures, in one way or another, in the European statistics of crude rubber.

SCRAP RUBBER OF AMERICAN ORIGIN.

IN this connection it may be of interest to give space to an estimate of the amount of rubber scrap of American origin, which is greater than in any other country. Some inquiry has been made on this point, and the following letter is one of those which have been received in reply:

TO THE EDITOR OF THE INDIA RUBBER WORLD: Answering your inquiry of the 16th instant, we will say that we estimate the quantity of rubber shoes gathered in this country, at approximately 25,000 tons. In addition to this, there are gathered about 5000 tons of hose, some 2500 tons of bicycle and vehicle tires, and likewise some 5000 tons of miscellaneous rubber scrap—or a total of 37,500 tons. This does not take into consideration the foreign rubber boots and shoes that are landed on our Eastern shores. The yield of reclaimed rubber will average about 80 per cent. Yours, truly,

B. LOEWENTHAL BROS. & CO.

Chicago, July 18, 1901.

The estimate above figures out at 75,000,000 pounds of scrap rubber, which, at 80 per cent. of reclaimed rubber, would give 60,000,000 pounds of the latter—which is the largest estimate yet brought to our notice. W. T. Rodenbach, of the United States Rubber Co.'s reclaiming plant (Naugatuck, Connecticut) says: "Various estimates have been made of the quantity of domestic rubber boots and shoes which are reclaimed each year; to be on the safe side, my opinion is that it would not be far from 18,000 to 20,000 tons. To this, of course, would have to be added all the other kinds of scrap rubber converted." This estimate, it will be seen, is 20 per cent. less than in the letter above given, and yet calls for an immense amount of waste material.

IMPORTS OF SCRAP RUBBER INTO THE UNITED STATES—FISCAL YEARS ENDING JUNE 30.

Countries.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Belgium.....pounds	....	....	....	...	3,916	12,229	16,928	74,683	196,790	300,419
Denmark.....	....	....	24,238	....	52,053	46,628	15,424	129,811	90,075	7,273
France.....	....	....	24,610	68,211	52,015	42,868	41,264	84,769	64,782	190,901
Germany.....	108,175	319,853	104,653	707,647	742,259	1,910,033	1,291,353	2,857,606	3,560,065	9,810,311
Russia—Baltic.....	21,668	15,102	22,000	....	65,954	398,321	563,998	1,582,862	2,993,763	3,955,387
Russia—Black sea	....	....	....	....	65,407	....	300,815	132,190	329,495	1,092,129
Norway-Sweden.....	...	11,516	....	10,675	15,540	....	....	14,267	33,800	95,175
Turkey in Europe.....	20,593	59,230	65,233	131,621	67,405	51,437	18,178	50,988	115,143	123,866
United Kingdom.....	246,257	896,787	117,929	188,997	254,489	340,439	593,798	269,652	426,790	1,006,513
British North America.....	87,008	534,581	548,067	664,498	583,871	659,830	398,913	2,051,617	2,675,147	2,497,908
West Indies.....	2,033	....	3,813	2,359	115,987	....	19,736	....	4,220	1,050
South America.....	....	1,000	....	....	....	....	....	79,535	....	300
British East Indies.....	2,429	...	....	...	....	409,752	389,238	2,140,358	....	...
Other countries.....	....	2,717	....	...	13,637	3,140	4,300	19,972	23,534	12,315
Total .....pounds	488,163	1,841,786	910,543	1,774,008	2,032,563	3,874,677	3,653,945	9,488,327	10,513,604	19,093,547

HECHT, LEVIS & KAHN'S REVIEW.

THE annual circular issued from Liverpool by the above named importing firm embodies the results of a careful attempt to estimate the world's production and consumption of rubber, and also the total visible supply on July 1. The figures given, compared with those previously issued by this firm, are:

	1898-99.	1899-1900.	1900-01.
Total production, tons	52,192	53,348	52,864
Total consumption	48,783	48,352	51,136
Visible supply, July 1	4,871	7,869	6,941

In many cases, of course, it is impossible, in such estimates, to calculate shrinkage between producing and consuming markets, and there are other elements of inaccuracy, but the above are offered as approximate amounts. Again, the "ton" is a variable quantity, in different countries, but accepting the metrical ton of 1000 kilograms as the standard, the estimate for the past twelve months reads:

Total production	116,543,974 pounds.
Total consumption	112,734,426 "
Visible supply, July 1	15,302,128 "

The Pará crop shows an increase of 3½ per cent. over last year, but this is almost wholly in Peruvian (Caucho). While during the last ten years, the production of Pará grades, properly speaking, has increased 57 per cent., the output of Caucho has more than trebled, as shown here in detail:

	1890-91.	1900-01.	Increase.
Pará fine, tons.	9,954	14,637	47%
Pará medium (entrefine)	1,371	2,879	11%
Pará coarse (negroheads)	4,032	6,718	66%
Peruvian (Caucho)	1,100	3,573	225%
Total	16,457	27.807	69%

That increase in production and deterioration in quality invariably go together, says the circular, has been exemplified in a very marked manner during the year under review. Antwerp imports have again increased by 1200 tons, and the quality of the rubber has very much deteriorated; in fact, the bulk of the arrivals consists now of heated and badly conditioned kinds, and the high standard of previous years can no longer be counted on.

"VALUES.—The extreme high prices of the last two seasons have at last given way to a more normal level, partly on account of unfavorable conditions in the United States, where the trade had to struggle against the paralyzing effect of two successive open winters, and partly because of reduced activity on this side. So firm was the 4 shilling basis established in the mind of the whole rubber trade that, after a temporary decline to 3/11½ in July and August, prices rebounded once more to 4/4 in September. From this, however, under the influence of increasing receipts and the financial crisis in Pará, which precluded holders out there from showing more resistance, the decline was almost uninterrupted till values touched in March last 3/6. The importance of the decline brought about its own reaction, which was assisted by large American purchases in Pará and by, what seemed at the time, a most determined effort in America to control the world's market. The success of this move on the part of Americans was, however, only a partial one, as manufacturers had, during the period of decline, bought beyond their immediate requirements, thereby creating an invisible supply (see our remarks in last year's review) which enabled them to successfully combat the attempt to force a rise upon them."

"PROGRESS.—While, during the crop year ending June 30, the shipments from Pará to Europe fell to the level of those in 1896, the shipments to the United States were the largest on record. It would, however, be misleading to conclude that the larger shipments and consequent larger deliveries, point necessarily to a corresponding increased consumption in the United States. On the contrary, the probabilities are that large quantities have been stored away for speculative purposes, and the fact that important shipments of hard cure rubber have been made during the last few months from New York to Europe, seems to confirm this assumption."

"PROSPECTS.—The new season opens at what are generally acknowledged moderate prices, considering the modern condition of rubber industries. The visible supply of all kinds Pará is now 16¾ per cent. smaller than at the beginning of the previous season, and it is generally assumed that the coming Pará crop will show a falling off variously estimated from 10 to 25 per cent. Some decrease would be only natural, considering last season's financial crisis at Pará, which caused a large reduction in the number of rubber gatherers sent into the interior. On the other hand, a certain number of hands have, contrary to former years, remained in the interior, which to a certain extent will compensate for the reduced immigration. All things considered, the deficiency will probably not be so severe as to cause anything like a rubber famine, especially as the prospects of consumption in Europe are not particularly favorable."

KING LEOPOLD, RUBBER MERCHANT.

THE interest of the king of the Belgians in Congo rubber is mentioned so often, in his own country as well as elsewhere, that it must amount to something. In fact so far as the Congo Free State is Belgian at all, it may be considered as King Leopold's private property. The value of the rubber resources in the Congo was no sooner appreciated than a "private domain" was established, within which rubber gathering without official permission was prohibited. It happened that the richest rubber forests were included in the reserved district. Every steamer from the Congo which arrives at Antwerp with rubber includes on its manifest a liberal shipment on account of the "Domaine privé"—in other words state rubber. But this is not all. Some time ago *The Speaker*, an English journal, published an article pointing out that several of the supposedly private companies in the Congo rubber trade were in reality permitted to operate there only on condition that the state—practically the king—should be admitted as a shareholder, in most cases to the extent of 50 per cent. of the capital. The amount of rubber coming from that country from really private companies, therefore, is comparatively small. Taking the reports of Congo rubber arrived at Antwerp during the first half of 1901, as published in detail each month in THE INDIA RUBBER WORLD, the figures permit of the following analysis, in the light of the article published in the English paper:

	Kilograms.
Domaine privé Etat du Congo	1,592,101
Companies in which the state is interested	614,087
All other companies	761,831
Total	2,968,019

While these figures may be subject to revision, the salient fact remains that the rubber output is largely in the hands of the government. And if half the reports be true, the rubber collectors who work for the government agents do not receive such high wages, but that a very comfortable profit exists, at the prices commanded by Congo rubber at Antwerp for several years past. King Leopold may fairly be recognized, therefore, as one of the greatest of rubber merchants. And he can afford to laugh at competition.

HEARD AND SEEN IN THE TRADE.

"WHAT would you do," asked one rubber man of another while at luncheon, "if the plan now talked of in Wall street should be carried out, in the consolidation of all the rubber factories in the country, as has been done in the steel industry?"

"Start a new rubber factory," was the answer. "With all the other rubber mills tied up in one bunch, where no man's individuality could find play in the transaction of business, and with prices governed by agreement, I shouldn't want anything better than to enter the field as an independent, free to deal with a customer as man with man. I could make as good goods as the 'trust,' and the only way that they could beat me as to price would be to cut their own prices to a level that would leave no show for dividends for the stockholders."

"I don't know but you are right," was the first speaker's comment.

* * *

ONE of the successful enterprises in which the late John H. Cheever was interested, and, indeed, of which he was the founder, is the Dundee Water Power and Land Co., of Passaic, New Jersey. The work done by this company has contributed in no small degree to the industrial development of Passaic, at which point ultimately was concentrated all the plant of the rubber company founded by Mr. Cheever.

* * *

HENRY F. HERKNER tells an interesting story of how the New York Belting and Packing Co., when they were burned out at Nos. 37-38 Park row, in February, 1882, continued their business without interruption. The fire broke out at 10 A. M., and made such progress that nothing was saved but the company's books. A vacant building near by was leased as soon as the seriousness of the fire was appreciated, and by 3 P. M., the full office force was at work in the new quarters, second hand desks having been obtained, an office stove bought, coal borrowed, and a freshly painted sign hung out. The goods due that day from the Newtown factories were unloaded at the new instead of the old quarters, and some of these goods were shipped to out of town customers on the same day.

* * *

FIVE years ago I wrote in this department: "Some day I may tell in these pages the story of a man who bought an interest in a new rubber company, then working on a small scale, paying for it with a note for $25,000, which was discounted in bank by the other shareholders. The note was met at maturity, out of the profits which had already accrued to its maker, and those profits continued to accrue, until he had actually drawn millions of dollars from the concern, and that without ever having put a dollar of cash into it." Unfortunately I failed to verify the story, until the possibility of doing so had past, but it has been told to me more than once, and it may not be amiss to state now that it related to Henry F. Durant, who, for more than thirty years, was the partner of the late John H. Cheever, in the New York Belting and Packing Co.

* * *

"PROFITS in the rubber business in the days when Mr. Cheever was building up his company were far more liberal than now," said a manufacturer to me. "My own sales are probably larger than his were in the days when Mr. Durant was associated with him, but we don't begin to make such returns on the capital invested as those pioneers did."

* * *

A DEALER in rubber goods in Copenhagen, Denmark, who visited the United States recently, said that American rubber footwear was preferred in that market, when the finer qualities were desired. No European manufacturer, he said, had yet succeeded in producing rubber shoes at once light in weight and sufficiently durable, and none so attractive in appearance as those of the best American factories. He mentioned 15,000 cases per year as the extent of his trade in rubber footwear, though not all of this is in American goods, and he has about 200 customers on his list, throughout Denmark. In other lines his stock is drawn mainly from England, though he is open to buy in any market where suitable goods can be obtained at the best figures. It may surprise some persons to learn that freights on such goods as he buys are heavier from London than from New York. Country dealers in Denmark still have to be accommodated with six months' credit.

* * *

THE dealer above referred to was averse to handling the goods of American firms having their own representatives in Europe. At least he wanted to deal direct with manufacturers, and on equal terms with other European customers.

* * *

I HAVE been talking with a man who formerly traveled extensively in different foreign countries for an American house which, though not a rubber house, is credited with distributing abroad a larger amount of American rubber druggists' sundries than any other one concern. It is his testimony that, wherever the quality of the best American goods in this line become known, they are preferred to any other, except where a preference exists for goods in certain forms, and where American manufacturers fail to respect this preference. But so far as white goods are concerned, they are preferred to all others, wherever they are given a proper test. So far as price is concerned, this former traveler is convinced that no goods produced in any other country, of equal quality, can be sold at lower prices. He expressed surprise that American manufacturers did not attempt to cater to the trade, in various English colonies, where the demand for hot water bottles, for instance, is for the English rather than for the American shapes.

* * *

AN export house in New York has asked me where hard rubber combs could be obtained, bearing a certain trade mark, a copy of which was forwarded by a dealer in Brazil. I assured them that, while the trade mark bore a strong resemblance to that of an American manufacturer, it was not "made in America," but evidently had been produced elsewhere, with a view to aiding in the sale of goods in imitation of an American article for which a good demand existed.

* * *

NO little interest has been shown lately in the manufacture of rubber oil, although inquirers are secretive as to the uses to which they intend to put it. The old fashioned formula for this work calls for 11 pounds India-rubber, 90 pounds rape seed oil, digested by heat, which, however, is not to be confounded with oil or rubber.

* * *

GUTTA-PERCHA from the Philippine Islands was imported into the United States in 1858 to the value of $628, and in 1859 to the value of $20. These are the only two instances in which Gutta percha from this source is noted in the United States import returns.

* * *

THE government of Amazonas, at Manáos, has received a steamer, the *Cidade de Manáos*, with the aid of which it is hoped that the contraband trade in rubber will be checked, if not stopped.——The Red Cross line has reëstablished direct steamship connection with Iquitos.

NEW GOODS AND SPECIALTIES IN RUBBER.

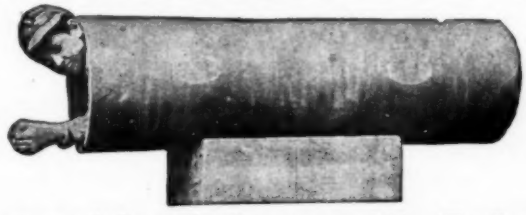
"IMPERIAL" RUBBER VEHICLE TIRE.

THE distinctive feature of the construction of this solid rubber vehicle tire is that it provides a greater amount of rubber between the wires and the channel than has been true of tires in this class hitherto. The constant compression and strain on many tires in the market causes them, after short service, to become cut by the wires and loosened from the wheels. By referring to the illustrations on this page it will be noticed that the holes for the wires

are above the angle of the channel and tire. This gives an extra thickness of rubber between the holes and the base of the tire, whereby increased service from the rubber is gained. Besides large wires are used in connection with the "Imperial" tires, which are less liable to cut the rubber. The fabric in these tires is heavily coated with rubber, which prevents it from becoming rusted and rotted through the action of water and moisture. Sections are shown here of 1¾ inch and 1¼ inch tires; they are made in sizes from ¾ inch up. [Boston Belting Co., Boston.]

LARGE RUBBER HOSE.

THE illustration herewith has been made from a photograph of a section of rubber suction hose manufactured by the Bowers Rubber Co. (San Francisco, California.) The measurements have not been stated, but the position within the hose of a full



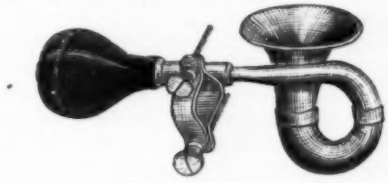
grown man indicates the diameter very fairly. The Bowers Rubber Co. were incorporated November, 1890, to continue the business of manufacturing rubber goods, commenced in San Francisco in 1888 by W. F. Bowers & Co. The firm make a specialty of the lines of rubber goods in demand in the mining districts.

THE GAME OF "PING PONG."

THE British correspondent of THE INDIA RUBBER WORLD, in his notes this month, refers to "ping pong" as having become so popular as to have enhanced the consumption of celluloid to an important extent. The game likewise has gained much vogue in Germany. It is a house game, and is known also as room lawn tennis, or table lawn tennis, to say nothing of another name—"Gossima." The game appears to have become little known in the United States as yet, although it may be seen in the windows of A. G. Spalding & Brothers, the sporting goods dealers.

FRENCH AUTOMOBILE HORN.

THIS automobile horn, which is called a "squacker" in France, is made in three sizes—small, medium, and large—which retail in this country at $6, $7, and $10, respectively.



They are imported and carried in stock in this country by Charles E. Miller, dealer in automobile material, Nos. 97–101 Reade street, New York, who has favored us with the illustration herewith.

VENN'S PATENT SHOE MARKER.

THE illustrations herewith will clearly show the improvement that has been made by Frank Venn (Malden, Massachusetts), in his new patent marker, for marking rubber boots and shoes, which is now being used with success in many factories. The old style shoe marker patented by Mr. Venn was illustrated and described in THE INDIA RUBBER WORLD, August 10, 1897. As will be

THE OLD STYLE.

THE NEW STYLE.

seen by comparison of the two cuts given here, the new or perfected marker has a handle all of one piece. It is designed especially for use by girls, the new marker being only two-thirds as heavy as the old one, though just as strong and durable. Many years of experience showed that the machine Mr. Venn had been making was not perfectly adapted for marking shoes off the last, which is now done by many manufacturers, it being too heavy for the girls to use. He has, therefore, reduced very materially the weight of his new marker, from about 24 ounces to 16 ounces. He has found that the letter *F*

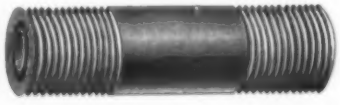
is used more frequently than any other, and has, therefore, added an extra *F*, so that the new marker has one *S*, one *M*, one *W*, and two *F*s, with figures for all sizes and widths needed in the trade. The operator can mark on an average about 600 pairs per hour on the last, and from 1000 to 13,000 per hour off the last. Mr. Venn's address is Box 76, Malden, Massachusetts.

BOWN AUTOMATIC TIRE VALVE.

THE illustration shows a sectional view of a new automobile tire valve. The Bown valve is the one that has a little rubber ball for plunger. It has been used for the past season or two on bicycle tires. The principle is that of utilizing the air pressure within the tire to force the rubber ball to its seat, thus retaining the air when the pressure from the pump is released. The use of this valve is referred to as rendering it an easy matter to inflate the tire. Other advantages are the simplicity of construction, as compared with some other valves, and the fact that the rubber ball plunger never sticks in the tube. Made by the Bown Tire Valve Co., Limited (Battle Creek, Michigan), which has been organized to introduce the valves made undert he Bown patents.

NEW CLIFTON IRON ARMORED CONDUIT.

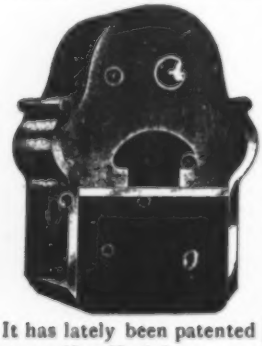
THIS insulating conduit, which has been installed in many large and important buildings throughout the country, consists of the regular standard wrought iron pipe, light and heavy wall, lined with a special coating of rubber compounded with other valuable insulating material. The whole is attached so firmly to the interior of the pipe that it almost forms a part thereof, while at the same time it is flexible enough to allow the pipe to be bent at different angles without injury to the lining.



It is installed in the same way as other conduits, but in many instances at less expense. In addition to being flexible, this conduit is impervious to water, indestructible by corrosive salts or alkalies, and is not affected by heat up to 300° F. One advantage of the flexibility of the conduit is that bends or turns may be made, by its use, in places where it would not be convenient to use elbows. The "Clifton" conduit is made in different styles, being rubber lined inside and outside, or inside only. [Clifton Manufacturing Co., No. 65 Franklin street, Boston.]

DOUBLE LOCKED COMPRESSED TIRE.

THE point aimed at in the design of the Dewes & Whiting double-locked, endless compressed tire is that it shall stay on when it has been fitted to a wheel. The internal lock is made of hard wood, which cannot corrode or injure the rubber. In fact, there are no metal fastenings to come in contact with the rubber. The wood is held in place by screws from the under or inner side of the felloe, and the steel flanges are attached to the felloe as indicated in the illustration. The tire is made in sizes for automobiles if desired. It has lately been patented [Dewes & Whiting, No. 243 Centre street, New York.]

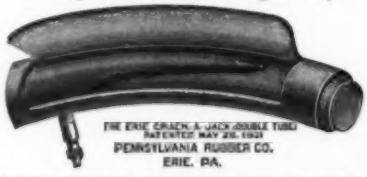


RUBBER BUCKET FOR AUTOMOBILE USE.

THIS illustration represents a collapsible rubber bucket designed for use in connection with automobiles—for holding water and for other purposes which will suggest themselves readily to owners and users of these vehicles. The fact of the bucket being collapsible adds greatly to the convenience of transporting it. [The B. F. Goodrich Co., Akron, Ohio.]

A SUCCESSFUL DOUBLE TUBE TIRE.

THE new double tube tire, of which a small sectional view is shown in the illustration herewith, is the subject of a patent allowed on May 28 last. The tire has been in use longer, however; in fact, it is understood that over 100,000 sets have been marketed. The degree of satisfaction given by this tire is evidenced by the small number returned to the factory—less than 1 per cent.—which is an unusual record, when it is considered that this is an unguaranteed tire. In most of the cases where tires were returned, it was only on account of punctures. The method of construction of this tire is explained in a pamphlet that can be had for the asking. [Pennsylvania Rubber Co., Erie, Pa.]



"STANDARD OIL" DUCK BOOT.

THIS is not, as its name might suggest to some readers, a product of the "Standard Oil" or any other "trust," but is a boot designed to meet the demand of many workmen whose occupation obliges them often to stand in oil. This is, as everybody in the trade knows, one of the most severe strains to which a rubber boot can be put. The designation given to the shoe indicates that in the opinion of the manufacturers this boot occupies a place in its field as important as that of the Standard Oil Co. in the oil business. While a rubber boot cannot be made that will withstand oil or grease absolutely, the "Standard Oil Duck Boot" is made especially to meet these trying conditions. The boot is made of a special oil-resisting compound, which has been given a thorough practical test in crude petroleum. The boxes are branded with a representation of an oil well. [Apsley Rubber Co.]

EXPORTS OF AMERICAN RUBBER GOODS.

THE value of exports from the United States of goods classed as "manufactures of India-rubber" during the fiscal year ended June 30, 1901, reached the highest figures yet recorded, the details being:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-May....	$508,873	$684,256	$1,584,864	$2,777,993
June, 1901....	56,853	39,759	142,648	239,260
Total.....	$565,726	$724,015	$1,727,512	$3,017,253
1899-1900..	599,013	420,939	1,404,205	2,364,157
1898-99...	(a)	260,886	1,504,499	1,765,385

(a) Not separately reported prior to July 1, 1899.
[Exports to Hawaii and Porto Rico not included.]

The number of pairs of rubber footwear exported during the past twelve fiscal years has been:

1889-90....171,473	1893-94....261,657	1897-98.... ...	391,832
1890-91....175,627	1894-95 ...383,723	1898-99...	486,586
1891-92 ...231,105	1895-96 ...350.713	1899-1900... ..	762,016
1892-93. ..410,950	1896-97. ..306,026	1900-01.....1,469,100	

The average invoice value of rubber footwear during the last four fiscal years has been:

1897-98.	1898-99.	1899-1900.	1900-01.
57.3 cents.	53.6 cents.	55.25 cents.	49 3 cents.

Exports of reclaimed rubber by fiscal years have been:

	1898-99.	1899-1900.	1900-01.
Value.....	$376,962	$492,284	$412,728

RUBBER GOODS EXPORTS FROM NEW YORK.

DURING five weeks ended July 30, 1901, of the value and distributed as follows:

Great Britain..	$44,744	Central Amer.	697	Japan.....	8,633
Germany	13,999	Cuba.....	8,027	Hongkong....	29
France.....	1,234	British W. Ind.	589	Philippines ...	497
Belgium.....	5,105	Danish W. Ind.	15	British E. Ind.	1,232
Holland.....	718	Dutch W. Ind.	39	British Africa.	7 479
Spain..... ...	2,728	Haiti.....	289	Liberia.....	8
Switzerland....	703	San Domingo.	100		
Italy.....	135	Argentina	2,056	Total ..	$125,690
Austria.....	383	Brazil.....	865	May 29 June	
Turkey.....	14	Chile	1,098	25.....	92,157
Russia	394	Colombia.....	864	May 1-28 ...	70.216
Denmark.....	1,070	Ecuador.....	85	April 3 30....	86,060
Norway.....	223	Peru..... ...	189		
Sweden.....	438	Venezuela	97	Total 17	
Brit. N. Amer.	778	Australia	6,013	weeks..	$374,123
Mexico.....	12,843	China .....,	1,230		

Some other exports from New York during the five weeks ended July 30 were:

Dress Shields—To London $8525; Liverpool $4624; Southampton $5192; Glasgow $953; Hamburg $9569; Vienna $829; Havre $837; Antwerp $743, Australia $2692; Argentina $190; British Africa $48; total $33,373.

India-rubber Thread.—To Antwerp $4587; Havre $3369; Hamburg $7786; Rotterdam $7015; Genoa $5277; Glasgow $6362; total $34,396.

Reclaimed Rubber.—To Liverpool $4121; Glasgow $7785; Leith $1910; Manchester $900; Genoa $1223; Havre $2318; Hamburg $5822; Copenhagen $741; Christiana $758; total $28,578.

AMERICAN IMPORTS OF RUBBER GOODS.

THE value of the imports of India-rubber and Gutta-percha goods during the twelve months ending June 30 in each year has been:

	1898.	1899.	1900.	1901.
India-rubber goods.....	$309,247	$379 309	$564,088	$478,625
Gutta-percha goods.....	156,997	115,582	254.332	163,337
Total Imports.....	$466,244	$494,891	$818 420	$641,962
Reëxports	101,857	63.016	12,874	16,888
Net Imports	$364,387	$431,875	$805,546	$625,074

LITERATURE OF INDIA-RUBBER.

"DIE Kultur des Castilloa-Kautschuk," by Theodor F. Koschny, of San Carlos, Costa Rica, is an 8vo pamphlet of 54 pages, issued as Vol. II, No. 3 of the supplementary series of *Der Tropenpflanzer* (Berlin), the organ of the Kolonial-Wirtschaftlichen Komitee—an organization which has done so much of late to investigate the natural conditions attending the growth of rubber species, and to promote cultivation on an intelligent basis. Herr Koschny has now been in Costa Rica for 23 years, during all of which time he has made a study of the rubber tree, planting on a small scale by all the different methods. He has adopted that of cutting out rows through the forest, and planting the seeds where the trees are to stand. He estimates that the needed outlay, other than for land, would be, for 100 hectares (=247 acres), on which he would place 27,777 trees (=116 or 117 trees per acre), up to the end of seven years, would be $8207 (gold). In the eighth year he would begin tapping, limiting the yield to 1 pound per tree, in order not to endanger their vitality. Herr Koschny describes four sorts of *Castilloa*, which are known locally as—

Hulé blanco=white rubber.
Hulé negro=black rubber.
Hulé colorado=red rubber.
Hulé tanú, which is the "tuno" gum.

This is, on the whole, the most comprehensive publication yet made in regard to the rubber tree of Central America by one who made a study of the tree in its native *habitat*, and it gives the impression of much painstaking to assure accuracy.

IN CURRENT PERIODICALS.

REISEBERICHT der Guttapercha-und Kautschuk-Expedition nach den Südsee-Kolonien. By Rudolf Schlechter. [Report on rubber plantations in Sumatra by a commission from the German Colonial Committee]. = *Der Tropenpflanzer*, Berlin. V-7 (July, 1901.) pp. 318 329.

Rubber in Venezuela. By Consul Goldschmidt=*Advance Sheets of Consular Reports*, Washington. No. 1070 (June 24, 1901.) pp. 1-3.

Conditions Auxquelles est soumise l'Exploitation du Caoutchouc au Brésil. [Extracts from documents communicated by the ministry of foreign affairs of Belgium]=*Bulletin de la Société d'Etudes Coloniales*, Brussels. VII-11 (November, 1900.) pp. 793-796.

De cultur van den Mexikanschen gom-elastik boom (*Castilloa elastica*). =By A. H. Berkhout. [Review of pamphlet by Th. F. Koschny, of Costa Rica, published by *Der Tropenpflanzer.*]=*De Indische Mercuur*, Amsterdam XXIV-30 (July 30, 1901) pp. 580-581.

From Pará to Manáos: A Trip up the Lower Amazon. By Reginald Kœttlitz. [Illustrated account of the Amazon country, with references to rubber gathering.]=*The Scottish Geographical Magazine*, Edinburgh. XVII-1 (January, 1901.) pp. 11-30.

Renseignements Comparatifs sur les Cinq Principaux Arbres á Caoutchouc.=*Bulletin de la Société d'Etudes Coloniales*, Brussels. VIII-7 (July, 1901) pp. 497-502.

OTHER PUBLICATIONS RECEIVED.

THE AFRICAN ANNUAL AND TRADERS' YEAR BOOK. 1901. London: Offices of *African Commerce*. [1901.] [Cloth. 12mo. 160 pp. Price, 2s. 6d.]

THIS book is the result of the first attempt to supply in collected form facts and figures relating to the whole of Africa, for the special use of exporters and importers, manufacturers, and shippers. Information is given in relation to forty-two colonies and countries. The plan of the work is comprehensive, and it gives the impression of being accurate.

COMMERCIAL Relations of the United States with Foreign Countries During the Year 1900. In two volumes. Washington: Government Printing Office. 1901. [Cloth, 8vo. pp. 1241+1057.]

Statistics of Manufactures, 1899-1900. [From the Fifteenth Report on the Statistics of Manufactures of Massachusetts.] Boston. 1901. [8vo. pp. v+61-157.]

NEW TRADE PUBLICATIONS.

THE BOSTON BELTING CO. have issued a new edition of "Rubber Belting, Lacing and Splicing. Suggestions for the Transmission of Power." The information which it contains, with the help of numerous illustrations, makes it a valuable handbook for ready reference for all belt users. [5¼″×8¼″. 44 pages.]——Another illustrated pamphlet, devoted to "Fire Hose," is a catalogue of the company's products in this line, including such fire hose appliances as couplings, nozzles, hose racks, and the like, and also the underwriters' specifications and illustrated description of hose test pumps. [5¼″×8¼″. 32 pages.] It may be interesting to note that the names are given of 290 cities, in 36 states, to which the company have sold fire hose.——A third new publication from the same company is "Rubber Covered Rollers," relating to an important department of their production, and covering equipment for a great variety of industries. They have made rubber covered rollers for paper making machines as large as 24 inches in diameter and 158 inches "face," or length, such a roller complete weighing 5 tons. [5¼×8″¼″. 16 pages.]

NEW YORK BELTING AND PACKING CO., LIMITED, issue an illustrated pamphlet entitled "New York Vehicle Tire," in which is fully described the features of construction of this new type of tire, and its advantages under various conditions. The pamphlet is attractively got up, and it answers seemingly every possible question that can be asked about the tire, including prices, and the prices of steel channels. This is a specimen of the new series of catalogues now being issued by the New York Belting and Packing Co., each devoted to a particular line of their products. [4¾″×7″. 23 pages.]

THE DIAMOND RUBBER CO. (Akron, Ohio) have published, under the title "Diamond Carriage and Motor Tires," an exceedingly readable brochure on points to be observed by buyers and users of pneumatic vehicle tires. The company have been making pneumatic tires, for heavy and light vehicles, for six years, and have now become fully committed to the merits of such tires—if made of good material, and constructed to fit the work to be done. This pamphlet is attractive outwardly, and well illustrated within. [4⅞″×7¾″. 32 pages.]

BOWERS RUBBER CO. (San Francisco, California), the pioneer rubber manufacturers on the Pacific coast, send us a new illustrated catalogue of Mechanical Rubber Goods, which embraces not only the staple lines of such goods as are in use elsewhere, but some specialties which are called for in the mining districts. Of this class are their patented concentrator belts. They make a specialty also of large sized suction hose. [3⅞″×6″. 62 pages.]

ROBINS BELT CONVEYING CO. (New York) have issued an elaborate new pamphlet, "Coal Handling by Means of Robins Belt Conveyors," for which system a grand prize was awarded at the Paris Exposition of 1901. The system is fully described herein, including some new features, with the aid of several half tone illustrations on a large scale. [9″×12.″ 24 pages.]

THE RUBBER SPECIALTY CO. (Akron, Ohio) issue a tastefully got up illustrated brochure, calling attention to their products in the way of rubber bands, tubing, sponge rubber, gloves, nipples, ice bags, face masks, and the like. We are certain that our readers would be pleased to see it. [4¾″×6⅛″. 8 leaves, in cover.]

ASBEST- UND GUMMIWERKE ALFRED CALMON, AKT.-GES., HAMBURG have issued a new edition, for 1901, of their catalogue, printed in English for foreign use, of their asbestos and mechanical rubber products. This is an exceptionally large asbestos factory, to which has been added a rubber factory, complete in itself, and on a large scale. The catalogue is illustrated, and quotes prices in English money. [6⅛″×9¼″. 118 pages.]

PIRELLI & CO., the India-rubber and cable manufacturers of Milan, Italy, have issued an illustrated pamphlet in French, describing their cables for very high pressures, and including certificates from experts at Paris and Milan on their 25,000 volt cable exhibited at the Paris Exposition of 1901. It embraces also references to the Pirelli cable exhibit, quoted from THE INDIA RUBBER WORLD, and leading electrical journals. [7⅜″-×11⅜″. 16 pages.]

ALSO RECEIVED.

MORGAN & WRIGHT, Chicago=Bicycle Enamels and Enamel Sundries. 8 pp.

United States Rubber Co. (F. D. Balderston, special selling agent) Boston=Tennis, Yachting, and Gymnasium Shoes [price list], 1901. 4 pp.

Frankfurter Asbestwerke Aktiengesellschaft (vormals Louis Wertheim), Niederrad-Frankfurt o/M.=[Illustrated Catalogue]. 29 pp.

The Searls Manufacturing Co., Newark, New Jersey=Carriage and Sleigh Goods [including several items of rubber articles.]

J. W. Buckley Rubber Co., No. 69 Warren street, New York=Rubber Goods for Mechanical Purposes. 24 pp. *Also*: Net Price List of Bicycle Tires, 1901. 4 pp.

The Painesville Metallic Binding Co., Painesville, Ohio.=[Catalogue of Stair Nosings, etc.] 8 pp.

B. F. Sturtevant Co., Boston.=After Thirty Days. [Relates to speedy recovery from damage by fire.] 8 pp.

Rochester Wringer Co., Inc., Rochester, New York.=Illustrated Catalogue of Self-adjusting Clothes Wringers. 24 pp.

S. Sternau & Co., No. 204 Church street, New York.—The "Holdast" Bath Spray. 12 pp.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED JULY 2, 1901.

NO. 677,398. Horseshoe pad. August Buer, Hanover, Germany.
677,415. Cushion tire. Webber G. Kendall, Providence, R. I.
677,480. Syringe. Mary K. Thomas, Akron, Ohio.
677,489. Water bag. Sarah A. Woods, Flushing, N. Y.
677,497. Hoof pad. John A. Buck, Brooklyn, N. Y.
677,708. Automatic tire inflator. George B. Stacy, Boston, assignor to Alexander H. Spencer, New York city.
677,810. Pneumatic tire. Uzziel P. Smith, Chicago, assignor of one-half to Thomas Kane, same place.
677,814. Rubber tire. Charles W. Stapleton, New York city.

ISSUED JULY 9, 1901.

677,867. Method of attaching rubber tire to rim. John W. Hawkins, Cuyahoga Falls, Ohio.
677,983. Pneumatic tire for bicycles. Edwin Hemsted, Toronto, Canada.
678,055. Rubber vehicle tire. George W. Southwick, Franklin, Mass.
678,317. Cushion tire. Webber G. Kendall, Providence, R. I.
678,340. Cushion tire. Joseph Holland, Providence, R. I., assignor to Webber G. Kendall.

ISSUED JULY 16, 1901.

678,504. Pneumatic tire. Joseph G. Mooney, Erie, Pa., assignor to Lake Shore Rubber Co., same place.
678,510. Pneumatic tire and inner tube therefor. Charles G. Page, Oakpark, Ill.
678,653. Machine for setting rubber tires. Samuel A. Gaede and Henry J. Duckgeischel, Chicago.
678,850. Rubber hose. William J. Courtney, New York city, assignor to Herman H. Westinghouse, Pittsburgh, Pa.

ISSUED JULY 23, 1901.

678,922. Roofing compounds. Christopher W. Walker, Johnsonburg, Pa.
679,000. Vehicle wheel having resilient tire. Marie Holaubek, Vienna, Austria.

679,038. Elastic steel horseshoe. Otto W. Siebenhaar, Ladoga, Wis.

679,280. Cushion tire. James E. Furlong, Providence, R. I.

ISSUED JULY 30, 1901.

679,404. Process of extracting India rubber. Auguste V. L. Verneuil, Alexander L. Godefroy-Lebeuf, and Albert L. Arnaud, Paris, France.

679,519. Valve for pneumatic tires. Lyman T. Smith, New Haven, Conn.

DESIGN PATENTS.

34,802. Carriage tire and rim. Woodburn Langmuir, New York city.

34,868. Hoof pad. William J. Kent, Brooklyn, N. Y., assignor to Revere Rubber Co., Boston.

TRADE MARK.

36,821. Dress shields. The Canfield Rubber Co., Bridgeport, Conn.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

12,823. Wilbraham Edmunds, 83, Tierney rord, Brixton Hill, London. Pneumatic tires. June 24.

12,833. Edward Charles Vaudrey, 36, Chancery lane, London. Pneumatic tires and rims for same. June 24.

12,874. Francis Alban Byrne and Valentine Pfister, Birmingham. Improved method and apparatus for molding and vulcanizing rubber covers of pneumatic tires. June 25.

13,113. Pardon Wilbur Tillinghast and Adolph Thomas Vigneron. 45, Southampton buildings, Chancery lane, London. Improvements in tires and in means for securing the same to wheels. June 27.

13,127. William Frederick Williams, 53, Chancery lane, London. Means of securing tires to wheels. June 27.

13,158. John Thomas Jackson, Sam Jackson, and John Carrington Triffitt, Holbeach, Lincolnshire. Pneumatic tires for bicycles and vehicles. June 28.

13,286. Theodore Sterme, Liverpool. Resilient tires for vehicles. June 29.

13,319. Robert Milne, Manchester. Machine for covering rollers with India rubber. July 1.

13,334. Horace John Barwick, 599, High road, Chiswick, London. Automatic appliance for inflating tires. July 1.

13,347. Frederick Walter Pates, 154, Well street, Hackney, London. Duplex tire instant puncture remover. July 1.

13,349. George Robson, 19, Southampton buildings, Chancery lane, London. Method of and means for longitudinally compressing wired on cushion tires. July 1.

13,407. William Thomas Pritchard and Enoch Armitage, 46, Lincoln's Inn fields, London. Pneumatic tire covers. July 1.

13,408. Carl Nielsen, Anders Christian Andersen, and Laurits Saphurs Andersen. Apparatus for automatically producing a constant air pressure in pneumatic tires. July 1.

13,409. Alexander Latimer, Birmingham. Pneumatic tire covers. July 2.

13,440. Thomas Samuel Hughes, 18, Fulham place, Paddington, London. Pump for pneumatic tires. July 2.

13,535. William Pettinger, West Weatherill, Manchester. Improvements in rims and rubber tires for carriages. July 3.

13,565. Myron Francis Hill, 24, Southampton buildings, Chancery lane, London. Improvements in tires. July 3.

13,575. Martin Dunphy Armstrong, 73, Cheapside, London. Moulds for rubber teats. July 3.

13,671. Maximilian Zingler, 19, Buckland crescent, Belsize park, London. Improved method of treating decayed rubber. July 5.

13,677. Morland Micholl Dessau, 111, Hatton garden, London. Pneumatic tires. July 5.

13,709. Frederick Le Poidevin, 53, Chancery lane, London. Protective binder for India rubber hose pipes. July 5.

13,713. Anthony Pulbrook and Emily Henrietta Pulbrook, 115, Cannon street, London. Inflatable tires for cycles and vehicles. July 5.

13,734. George Croyden Marks, 18, Southampton buildings, Chancery lane, London. Improvements in devices for equipping vehicle wheels with rubber tires. [The Consolidated Rubber Tire Co., New York.] July 5.

13,767. Oscar Schaefer, 49, Thurlby road, West Norwood, London. Tires for vehicles and means for securing same. July 6.

13,768. Samuel Evans, 143 Dumbarton Road, Glasgow. Detachable pneumatic tires. July 6.

13,899. Emile Eugene Siffrid, 47 Lincoln's Inn fields, London. Improvements in coin freed apparatus for charging pneumatic tires, with compressed air. July 8.

13,949. Richard Steele Fletcher, 8, Quality court, Chancery lane, London. Tires for bicycles and vehicles. July 9.

14,166. Charles Edward Esse, Liverpool. Pneumatic inner tubes of tires. July 11.

14,190. Anne Ellen Phillimore, Stoneleigh, Lansdown, Bath. Ink erasers. July 12.

14,192. Edward Gooddy, Manchester. Pneumatic tires. July 12.

14,205. Sidney Greenwood, Liverpool. Elastic wheels for cycles and vehicles. July 12.

14,335. Arthur Frederick Evans, 27, Chancery lane, London. Means for preventing deflation of pneumetic tires or puncture. July 13.

14,386. Louis Peter, 53, Chancery lane, London. Pneumatic tires for automobiles. July 15.

14,397. Ernest A. Wilford, 72, Cannon street, London. Casings for pneumatic tires. July 15.

14,441. Richard Green, Jr., Birmingham. Pneumatic tires for cycles and vehicles. July 16.

14,444. Edward Henry Seddon. Pneumatic tires. July 16.

14,492. Harold Bertram Vinten, 18, Buckingham street, Strand, London. Pneumatic tires containing a plurality of inflatable tubes. July 16.

14,555. James Fairclough Butterworth and Cæsar Marter, Manchester. Substitute for leather, India-rubber, Gutta-percha, etc., and articles made therefrom. July 17.

14,586. Edward Everad Preston, 322, High Holborn, London. Pneumatic tires. July 17.

14,623. John Cockburn, Glasgow. Air valves for pneumatic tires. July 18.

14,651. Earl Chandler Whitaker and Frank Persia Whitaker, 53, Chancery lane, London. Vehicle tires and apparatus for the manufacture thereof. July 18.

14,672. Joseph Dinsdale, Jr., 18, Buckingham street, Strand, London. Tires for cycles and vehicles. July 18.

14,750. Carl Paulitschky, Southampton buildings, Chancery lane, London. Improved manufacture of rubber tires, and covers for pneumatic tires. July 19.

14,778. Arthur Wyatt, Bristol. Inner or air tubes of pneumatic tires. July 20.

PATENTS GRANTED.—APPLICATIONS OF 1900.

4604. Life preserver. Montagnoli, E., Rome, Italy. March 10, 1901.

4794. Elastic insertions in boots and shoes. Fowler, H. W., No. 155 La Salle street, Chicago, United States. March 13, 1901.

4866. Means for preventing punctures in pneumatic tires. Soerensen, C. P., and Moeller, F., Roskilde, Denmark. March 14, 1901.

4868. Packing washers. Goltstein, E., 32, Blaubach, Cologne, Germany. March 14, 1901.

4958. India-rubber compositions. Pearson, J. J., No. 40 Wall street, New York. March 15, 1901.

5004. Air valve for pneumatic tire. Gutmann, J., Mannheim, Germany. March 16, 1901.

5114. Air tube for pneumatic tire. Pope, H. E., Highclere, Newbury. March 17, 1901.

5182. Cork and rubber tire. Burrell, T., North Melbourne, Victoria. March 19, 1901.

5312. Rubber tire and means of attachment. Steinhardt, E. R., Hotel Cecil, London. March 20, 1901.

5378. Rubber horseshoe. Lake, H. H., 45, Southampton buildings, London. [Budd Doble Tire Co., No. 114 West Thirty-fourth street, New York.] March 21, 1901.

5716. Pneumatic tires. Corliss, W., Providence, R. I., United States. March 27, 1901.

5810. Exercising apparatus. Fitzgerald, W., Cahergiveen, Kerry, Ireland. March 28, 1901.

6124. Cork and rubber tire. Langgaard, J. H., 99, Tweed street, Liverpool. April 2, 1901.

6167. Means for inflating pneumatic tires automatically. Savoldelli, P. A., Hampstead Heath, N. W. April 3, 1901.

6258. Pneumatic tires. Ochs, F. L., Crescent road, South park, Reigate, Surrey. April 3, 1901.

6300. Rubber and canvas tire. Brewer, E. D., St. John's Wood, London, N. W. April 4, 1901.

6333. Pneumatic tire. Tobler, A., and Samuel H., Paris, France. April 4, 1901.

6450. Pneumatic tire. Preston, E. E., and Kendrick, G. D., Leicester, April 6, 1901.

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Belting,
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Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,

C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
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If you are not getting fair value for your money,
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Mention the India Rubber World when you write

MIDSUMMER OUTING OF THE NEW ENGLAND RUBBER CLUB.

THE New England Rubber Club is rapidly getting a reputation for being the most progressive and social trade organization in Boston, and it well deserves such an estimate. During the winter its custom is to have at least two dinners that are typical club affairs, graced by notable wits and orators, and, although restrained in conviviality, the utmost sociability is encouraged. The Midsummer Outing, however, is a picnic pure and simple, and members of the club and guests are cordially invited to do as they please, wear what they like, and not only have a good time themselves, but see that the other fellow has an equally good time. It was with this care-free spirit, therefore, that some seventy-five members gathered at the North station in Boston at noon, August 20, where a special car was awaiting to transfer them to Salem, where they connected with a special trolley car that took them to Salem Willows, where in turn awaited the *Empress*, the boat that was to convey them to the Misery Island Club.

W. E. BARKER.

A. H. BROWN.

TWO MEMBERS OF THE SPORTS COMMITTEE.

To digress a moment, it is worth while to say a word regarding Misery Island. This insular tract consists of some eighty acres, just off the beautiful North Shore in full sight of Beverly Farms, Manchester-by-the-Sea, and Magnolia, and is owned bythe Misery Island Club, an organization made up of a few wealthy residents of Boston and the North Shore. On the highest point of land is situated a commodious club house, with broad verandas and furnishings which are a rare combination of elegance and comfort. Almost every sport that the modern club man affects is here to be found—billiards, tennis, golf, fishing, boating, and bathing, and with rare courtesy the club officials gave over everything into the hands of the rubber men.

Prior to the landing at Misery, the *Empress* coasted along the North Shore for some miles, and gentlemen who were familiar with that part of the country pointed out the attractive residences that adorn that romantic coast. Among these were the beautiful homes of Robert D. Evans, Lester Leland, Colonel Harry E. Converse, and other members of the gum elastic trade.

During this water trip an ample lunch was served, together with a liquid refreshment of some potency, the name of which rhymed well with "lunch." On landing at the Club pier, the members fell into line and marched to the club house, preceded by the band. Here the committee on sports, Messrs. William E. Barker, Fred. C. Hood, and Andrew H. Brown, who had made most complete preparations for the afternoon's fun, at once started the ball rolling. Practically, the popular ball seemed to be the golf ball, twenty-two gentlemen having put down their names as contestants. Others were in for bottle pool, tennis, base-ball, fishing, and bathing, and with these varied sports the afternoon passed very rapidly, so that the call for dinner came almost before any one knew that it was dinner time. The dinner was served in the large dining tent adjoining the main club house, and consisted of the following *ménu*, together with suitable digestive tonics:

Grape Fruit.

Clam Chowder. Steamed Clams.
Broiled Live Lobster, Butter Sauce.
Boiled Turbot, Egg Sauce.
Creamed Potatoes. Green Corn on Cob.
Cucumber, Tomato, Lettuce Salad.
Baked Indian Pudding, Ice Cream Sauce.
Crackers. Cream, Camembert, Roquefort Cheese.
Fruit. Cigars. Coffee.

After the coffee and cigars, the president of the Club, Gov. A. O. Bourn, announced the prize winners and distributed prizes which were as follows:

In golf, for the lowest net score, George H. Forsyth, the prize

G. P. WHITMORE

W. H. GLEASON.

W. J. KELLY

DINNER AND ENTERTAINMENT COMMITTEE.

being 2 dozen Forsyth golf balls. For the highest net score, Colonel Frank L. Locke, the prize being a miniature croquet set. For the lowest gross score, Fred. C. Hood, 2 dozen Forsyth golf balls. For the lowest gross score, H. F. Wanning, a bag of marbles.

The prize for the smallest fish, secured by George H. Forsyth, was a pair of miniature Candee rubber boots. For the largest fish, caught by G. Edwin Alden, a pair of Boston Rubber Shoe Co.'s fishing boots.

The distribution of the prizes, the remarks of the President, the witty asides of the diners, and the brief speeches of acceptance on the part of the prize winners, furnished a deal of fun and consumed a half hour very pleasantly. The Club then passed a vote of thanks to the Misery Island Club for its courtesy in inviting them to use their house and grounds, and for their general and generous hospitality. The committee on sports and the dinner and entertainment committees were also complimented in the same manner.

Promptly at 8.30 P.M. the excursionists embarked again upon the *Empress*, were transferred to their special trolley car at Salem Willows, re-transferred to a special car in Salem, arriving in Boston shortly after 10 o'clock, all agreeing that they had spent one of the pleasantest days in their whole experience. It may be interesting here, in recapitulation, to note the names of those who entered the golf tournament, their scores, gross and net, and the handicaps. They are as follows:

Player.	Gross.	Handi-cap.	Net.	*Player.*	Gross.	Handi-cap.	Net.
George Forsyth..	64	18	46	H. W. Bean .. .	58	0	58
Eugene Clapp....	63	15	47	W. F. Pitcher....	67	8	59
F. B. Bemis.....	58	8	50	A. B. Jones.....	59	0	59
F. C. Hood.....	52	0	52	E. H. Wiggin....	74	14	60
W. L. Pitcher....	61	8	53	H. C. Mason....	73	12	61
C. C. Converse...	59	5	54	W. E. Piper.....	76	14	62
A. H. Brown....	60	5	55	W. J. Kelly.....	84	14	70
W. E. Barker....	60	5	55	J. H. Stedman...	91	18	73
S. L. Gillette...	64	9	55	R. B. Wiggin....	90	14	76
Benton Clement..	61	5	56	H. F. Wanning..	103	15	88
F. D. Balderson .	61	5	56	F. L. Locke	123	18	105

Those present were:

MEMBERS.

George M. Allerton,	Ira F. Burnham,	F. C. Hood,
F. H. Appleton,	Frank T. Carlton,	George H Hood,
C. H. Arnold,	E. H. Clapp.	Fred. H. Jones,
F. D. Balderston,	C. C. Converse,	William J. Kelly,
W. E. Barker,	Isaac Crocker,	W. S. Knowles,
Charles W. Barnes,	John M. Farwell,	George W. Knowlton,
Thos. S. Bassett,	John H. Flint,	J. H. Learned,
Hon. A. O. Bourn,	George H. Forsyth,	Frank L. Locke,
W. D. Brackett,	N. Lincoln Greene,	W. F. McClintock,
A. H. Brown,	S. Lewis Gillette,	H. C. Mason,
Otto Meyer,	W. L. Pitcher,	H. F. Wanning,
James E. Odell,	Arthur Reeve,	G. P. Whitmore,
J. S. Patterson,	Arthur W. Stedman,	E. S. Williams.
H. C. Pearson,	J. H. Stedman,	

GUESTS.

G. Edwin Alden,	H. T. Fletcher,	G. E. B. Putnam,
Frank Bemis,	J. L. Garvin,	G. H. Stedman,
A. O. Bourn, Jr.,	Joseph W. Green, Jr.,	Jos. C. Stedman, M. D.
S. W. Brown,	C. S. Hunter,	Mr. Towne,
Mr. Clement,	Max Loewenthal,	E. H. Wiggin,
H. I. Crampton,	Harry W. Noyes,	R. B. Wiggin.
E. H. Cutler,	Walter E. Piper,	
Walter Dean,	W. F. Pitcher,	

MISERY ISLAND AND THE CLUB HOUSE.

A FEW NOTES.

EUGENE H. CLAPP'S steam yacht, the *Idle Hour*, lay in the offing all day and was visited by numbers of the rubber men, who were charmed with its elegance and its evident fitness for pleasuring in New England waters.

=George H. Hood, who knows every foot of the North Shore, most vividly described the points of interest as the *Empress* steamed along the coast.

=The Forsyth golf ball, donated by the Boston Belting Co., was generally used in the golf tournament. That it is very lively was proved by the long drives, and that it floats can be attested by the many who dove into the pond opposite the first teeing ground.

=The likenesses of two of the members of the committe on sports adorn this report. The third member of the committee, Mr. F. C. Hood, does not appear as an illustration, but he did yeoman's service on the committee nevertheless.

SOME WANTS OF THE RUBBER TRADE.

[184] WE have a letter from Brooklyn, inquiring, "Will you please inform me where I can obtain rubber fruit, such as oranges, apples, lemons, etc.?"

[185] A shoe jobbing firm write asking for the addresses of manufacturers of elastic webbing.

[186] A correspondent in the South wishes the addresses of rubber firms who would consider a new rubber vehicle tire; also, a new valve and stem.

[187] "Who manufactures hose poles?"

[188] "Can you advise us who are the manufacturers of Poulton packing?" [Does this mean "Knowlton," made by a firm in Boston?]

SEND for a free copy of the Index to "Crude Rubber and Compounding Ingredients," by Henry C. Pearson, published by THE INDIA RUBBER WORLD.

PROPAGATING RUBBER TREES IN EUROPE.

BELGIUM long has enjoyed a period of ever increasing prosperity, and it is but natural that a liberal share of her accumulated capital should have been devoted to the development of her recently acquired possessions in Africa. Along with explorers, traders, and government administrators have gone botanists, horticulturists, and planters, and not only is the flora of the immense Congo country studied scientifically, but the economic value of the growths of the various districts closely investigated and experiments made with imported plants. Since the beginning of Belgian interests in Africa the study of India-rubber plants has received careful attention, and, besides the native species, several others have been demonstrated to be capable of cultivation there on a profitable basis.

Closely related to all progress in this direction is a very large and in many ways an ideal greenhouse establishment near Brussels, "L'Horticole Coloniale." Through the members of this establishment it is closely allied to the government of the Congo Free State and to the more important plantation companies there. For a quarter of a century or more a number of explorers have been traveling for L'Horticole Coloniale, or its predecessor (Etablissements Linden), and collecting plants of economic value. All the principal rubber producing plants have thus been united into an interesting collection, each studied and tested as to cultural requirements, productiveness, and the commercial value of its rubber. This arduous work, carried out under the supervision of the eminent horticulturist, Lucien Linden, has led to highly interesting and important results. These researches, which are still in progress, have demonstrated that the various rubber species have widely different characteristics and requirements. But not only is it one object of L'Horticole Coloniale to disseminate the kind of knowledge here alluded to, but it has the more important purpose of serving as a great nursery for the colonial plantations.

YOUNG PLANTS OF "HEVEA BRASILIENSIS."

[The engraving represents the general appearance and the relative size of plants grown from seeds of the Pará rubber tree, by L'Horticole Coloniale, at Brussels, for forming plantations in the colonies. The three specimens are four, eight, and twelve months old, respectively. The view is reproduced from *La Semaine Horticole*, of Brussels.]

Seeds gathered from carefully selected rubber trees are here germinated by hundreds of thousands, and the plants grown for one, two, or three years. They are then thoroughly hardened and finally sent to the country of their destination. In this way the ultimate success of the plantations is as fully assured as it is possible to do. The young plants, already well established in pots, are able to take care of themselves, with a little cultural aid which it is possible to give them in the undeveloped tropical countries. Experience has taught that these nursery grown plants give much better results than those grown on the spot, and though a preparatory cultivation in Europe may seem to be a complication, it really facilitates the planters' work. Without such a basis of supply from which at a moment's notice large numbers of well prepared plants can be bought, it would indeed often be a life work to establish a plantation. Otherwise, each planter would have to import his own seeds, often from a great distance, as when Brazilian rubber species are to be planted in the Congo valley; it would be tedious work to grow a sufficient number of plants to form a plantation; and when all was done there would be the uncertainty as to whether the seeds were true, or whether the varieties were good, or whether any particular variety was suited to the locality selected for the plantation. All these elements of risk are minimized by the existence of this great nursery at Brussels, from which guaranteed plants may be obtained just when wanted, and when the plantation is ready to receive them. Within the past two years large numbers of rubber and other colonial plants have been shipped to distant countries from Brussels, and with a great degree of success. [The details above are derived from an article by Theodore Eckardt, a landscape architect of Baltimore, in *The Sun* newspaper of that city.]

In this connection may be quoted the following, from a report by the British consul at St. Paul de Loando regarding the efforts to conserve the sources of rubber in the Congo Free State:

"It is now ordained by a decree of the government that each firm exporting rubber from its territories shall plant a certain number of fresh trees, in proportion to its shipments of that article. . . . In addition to legislation for preventing the destruction and insuring the reproduction of rubber giving plants, the Congo government has itself caused fresh varieties of rubber plants to be imported, and is, through its own agents, paying attention to their distribution and cultivation. Among such plants may be mentioned the *Ficus elastica*, the Ceará or *Manihot Glaziovii*, and the *Hevea Brasiliensis*, which furnishes the celebrated Pará rubber." The source from which these plants are obtained is, as already indicated, the horticultural establishment at Brussels.

The latest edition of the "Catalogue des Plantes Economiques pour les Colonies" issued by "L'Horticole Coloniale" société anonyme, is a substantial book of 157 pages, of which 25 are devoted to descriptions of the Caoutchouc and Guttapercha species of which plants can be supplied. There are listed no fewer than 26 species of Caoutchouc, and 5 of Guttapercha, and also Balata and Chicle. There are included some interesting notes on plantations of some of these species already formed. Seeds of many or all of these species are also supplied. In addition there are full page photogravures showing the appearance of rubber plants in the nurseries.

INSULATION FOR A GREAT POWER PLANT.

THERE is being constructed at Thirty-ninth street and East river, New York, a power station for the New York Gas and Electric Light, Heat and Power Co., which will have the largest capacity of any plant in the world—even more than the plant at Niagara Falls as that now stands. The New York plant has been developed gradually since 1896. The cables for the transmission of power are lead covered, three-cylinder, 250,000 circular mils. At first only India-rubber insulation was used, but last season paper was tried, so that now there is about an equal division, or 25 miles of each type of insulation in use.

In the rubber cable each conductor is insulated with $\frac{6}{32}$ of an inch rubber insulating wall. The three conductors are then laid with jute and made into a cable of circular section and another jacket of rubber put on, $\frac{4}{32}$ of an inch in thickness. The rubber compound is 30 per cent. pure Pará. The lead is $\frac{1}{8}$ inch thick, 3 per cent. tin, but with no outside coating of tin. This gives a cable $2\frac{1}{8}$ inches outside diameter, and the experience from laying 50 miles of cable would indicate that this is the largest practical cable that can be installed in a commercial 3-inch duct. The insulation resistance required on the rubber cable was 1000 megohms per mile, measured either between conductors or between conductor and lead. The completed cable was tested to 20,000 volts in the ducts.

The paper cable was similar, but with $\frac{5}{32}$ inch more insulation in the outer jacket, making $\frac{11}{32}$ inch insulating wall in all directions. Insulation resistance required on this was 400 megohms per mile. The paper cable measured $2\frac{13}{16}$ inches outside diameter, and although it has all been installed, yet it was drawn through the 3 inch duct with difficulty; and one would not advise attempting it again, as it was a great mechanical strain on the cable. The natural question in the minds of many is, which is better? It is proper to say that satisfaction has been obtained with both.

The above details are derived from a paper read by Calvin W. Rice before the National Electric Light Association at Niagara Falls.

RUBBER TIRES ON FIRE ENGINES.

SPEAKING of rubber tires, somebody in the tire trade is quoted in the New York *Sun* to the effect that there are twice as many vehicle tires in use to-day as there were two years ago.

"There's a good big bunch of rubber tires in use in the fire department," the tire man continued. "I guess that in Manhattan and Brooklyn boroughs you would find a dozen or more engines thus equipped, and the new engines bought are thus provided. Then there are some hook and ladder trucks with rubber tired wheels, and a good many hose wagons.

"A fire engine is heavy, the wheels are big, and they must have big tires which cost money. A set of rubber tires suitable for use on a fire engine costs in fact from $400 to $450. There is no question about the advantages of their use here. With rubber tires an engine goes less often to the repair shop, and so is more continuously in commission. And if you should happen to see a rubber tired engine go around a corner, or get into or out of the tracks of a street railroad, you'd think the advantage gained there was enough to pay for the tires. The engine doesn't swing or slide, but it follows true and the driver knows just where he can go and what he can do with the machine when he's under way.

"I should say that it would be profitable for the city to use these tires on its engines at practically any cost, but it wouldn't surprise me to learn that, costly as they are, what with the machinery carried and all, the use of the tires results in an actual economy."

BUTTON HOLES IN MACKINTOSHES.

ONE of the most perplexing problems that confronted the manufacturer in the earlier days of mackintosh making was button holing the garment. The large number of button holes required made a large force of hands necessary and, besides, it was essential that the work should be strong, with good wearing qualities, and also that it should be of handsome appearance. The nature of the material rendered it very difficult to produce button holes possessing these qualities and impossible to do so at all, except at extravagant cost.

The use of the Singer Manufacturing Co.'s button hole machine (No. 61-4, in its present improved form) has happily solved this problem. Its use in mackintosh factories is now practically universal. It produces button holes of uniform excellence in durability and in appearance so rapidly as to reduce the cost to a minimum figure.

The machine is fitted with an automatic cutter (which alone effects a saving of from 25 to 30 per cent.), automatic stop, foot presser, and in fact with every improved device for adding to the convenience of the operator, enhancing production, and improving the quality of the work.

The positive simplicity and durability of the mechanism and the fact that it can be successfully used by any intelligent sewing machine operator has made this machine very popular with manufacturers. A view of the machine appears in the advertising pages of this issue. A sister machine (Singer No. 16-69), specially arranged for sewing buttons to mackintoshes, extensively used in some of the best factories, together with other productions of the same company, will be noticed in future issues of THE INDIA RUBBER WORLD.

RUBBER SHOES IN THE WORLD'S TRADE.

THE exports of rubber boots and shoes from the United States during the first six months of 1901 have been treated elsewhere in this paper in detail. The total was 386,657 pairs. During the same period there were exported by Great Britain 660,732 pairs. The German statistics give only weights —286,220 pounds for the six months. The values officially stated are:

United States	$200,952
Great Britain	£73,261 = 366,305
Germany	M716,000 = 179,000

The values given above average 52 cents per pair for American goods and 2*s.* 2½*d.* for British, or about 53 cents. The greater part of the American exports in this line go out usually in the latter half of the year, no fewer than 1,122,443 pairs having been exported between July 1 and December 31, 1900. It remains to be seen whether a similar rule holds with regard to the other countries named.

The distribution of the German exports was: To Great Britain 69.2 per cent.; Belgium 6.7; France 5.7; Denmark 1.5; other countries 16.9 per cent. The imports of rubber footwear into Germany for the six months amounted in value to 2,556,000 marks (= $639,000). Calculating by weight, 83.2 per cent. of the whole came from Russia, 10.9 per cent. from the United States, 4.1 per cent. from Great Britain, and the remainder from other countries. It would appear, therefore, that Germany took $531,000 worth of Russian rubber shoes.

NEWS OF THE AMERICAN RUBBER TRADE.

THE RUBBER SHOE FACTORIES.

THE footwear department of the factory of the National India Rubber Co. (Bristol, Rhode Island) suspended work on August 10, it being announced that the suspension was for one month. About 700 hands were affected, some of whom have left Bristol temporarily to work elsewhere. The factory had been closed during the first week in July.——The "Alice" mill of the Woonsocket Rubber Co. (Woonsocket, Rhode Island) was closed on August 3, for one month, putting out of employment about 1000 hands. Both the "Alice" and the Millville mills were closed during the first week in July.——The factory of The L. Candee & Co. (New Haven, Connecticut) was closed during the first week in July, and has since been running 8 hours per day.——The Goodyear's India Rubber Glove Manufacturing Co.'s factory (Naugatuck, Connecticut) has been reported busy. Since April 1 about 150 new hands have been taught to make rubber shoes. ——The Boston Rubber Shoe Co. are reported to have booked, during the first two months of the business year, orders for 300,000 cases of rubber boots and shoes. As the average is probably 20 pairs to the case, this means 6,000,000 pairs—enough to run the factories for months to come.——The factory of the Lambertville Rubber Co. (Lambertville, New Jersey) since the shutdown for the first week in August, has been running five days in the week.

DUNLOP TIRES TO BE MADE AT HARTFORD.

THE American Dunlop Tire Co. have issued a circular from Belleville, New Jersey, in which they announce: "The rubber used in the construction of the Dunlop tire has for some time past been made for us by the Hartford Rubber Works Co., and to better avail ourselves of the splendid facilities of their organization, the entire manufacture and sale of the Dunlop tire will hereafter be conducted from Hartford. All correspondence should, therefore, be addressed to the Dunlop Department, Hartford Rubber Works Co., Hartford, Connecticut."——The Dunlop company, as well as the Hartford Rubber Works, are embraced in the Rubber Goods Manufacturing Co. The factory at Belleville, at which the tire parts have been assembled, will be closed. Mr. Kirk Brown retains his connection with the company, but it is reported that he will not go to Hartford.

STANDARD RUBBER AND OILCLOTH CO.

THE land and buildings occupied formerly by the Standard Rubber Co. (Campello, Massachusetts), and so much of the machinery as was not disposed of at the recent trustee's sale, have been purchased by Patrick Cavanaugh, of the New York firm of Cavanaugh Brothers & Knapp, who conduct a business of supplying various lines of goods to the United States government on contracts. The Campello plant will be operated under the style of the Standard Rubber and Oilcloth Co. The firm mentioned are filling a contract for army ponchos, the remainder of which will be manufactured at the Standard factory.

A RUBBER COMPANY TO TRY PLANTING.

MR. HARRY E. WAGONER, the president, and some of the other officers of the Monarch Rubber Co. (St. Louis) are interested in a plan for establishing a rubber plantation in Honduras. It is, in fact, spoken of as chiefly the enterprise of the Monarch company. One thousand acres will be developed near the mouth of the Black river, three miles from the northeastern Honduras coast and 70 miles from Truxillo, the principal city in that republic. Allister K. Stewart, of St. Louis, went to Honduras in July to form the first nursery and to begin the preparation of ground for planting. He will be assisted on the plantation by Alfred Ramel, also of St. Louis, and a stockholder in the company, who has been engaged in scientific work for the United States government. Through his efforts will be established on the plantation a meteorological station and an agricultural experiment station, with which the department of agriculture at Washington will coöperate.

THE DAVENPORT TIRE DECISION.

AT Keokuk, Iowa, on July 22, Judge McPherson, in the United States circuit court in the southern district of Iowa, denied the motion of The Consolidated Rubber Tire Co. for a temporary injunction restraining the Kelly Springfield Tire Co. (Davenport, Iowa) and Robert Kercheval, the president of the latter, from carrying on business under their corporate name, or from branding the same on solid vehicle tires marketed by them. It appeared from the evidence that in 1897 the Rubber Tire Wheel Co. (Springfield, Ohio) and Mr. Kercheval entered into a contract for the sale by the latter of the former's tires in Iowa and Nebraska, and parts of other states. With the knowledge and consent of the Rubber Tire Wheel Co., and of the Consolidated Rubber Tire Co., into which it had been merged, Mr. Kercheval had his business incorporated August 31, 1899, under Iowa laws, as the Kelly Springfield Rubber Tire Co. Later the parties disagreed, and The Consolidated Rubber Tire Co. brought suit against the Davenport company to recover royalties, and the defendants filed a counter claim in a greater sum. The action at law has not been tried and is still pending. The Davenport company has since obtained its rubber elsewhere. It was then sought by the plaintiff company to restrain the Davenport corporation from branding goods "Kelly Springfield Rubber Tire Co."—the corporate name of the concern—though it was not claimed that it had claimed to handle or sell the goods of The Consolidated Rubber Tire Co. since the disagreement above referred to. The decision of the court concludes as follows:

"Under the showing thus far made, it seems to me to be a case not so much to protect itself from unfair trade, as it is a case of some consolidated rubber tire companies seeking to control the trade of the country, and seeking to control those who are not in the consolidation or combine. And I regard such efforts with but little favor. An honest competition should not be thus stifled. The case will be continued for hearing on evidence taken of cross examination, and on evidence much more satisfactory than *ex-parte* affidavits, and the temporary injunction is denied."

FAIRFIELD RUBBER CO.

THIS company advise us that October will find them with their capacity more than doubled. Their new mill will be equipped with all the latest appliances for the manufacture of carriage cloth and similar goods. The additional building will include a large stock room, shipping room, office, heater, a new engine, calenders, mills, etc. For several months past the factory has been run nights, on account of the pressure of orders.

ELASTIC WEB CONSOLIDATION.

THE Bridgeport Elastic Web Co. (Bridgeport, Connecticut), capitalized at $125,000, have been merged into the Hub Gore makers (Boston), a corporation which dates from 1883. The Bridgeport factory will be operated for an indefinite period,

though the work eventually will be consolidated at Boston. The officers of the Bridgeport company were: Edward Sterling, president; E. B. Hawley, treasurer; E. W. Marsh, secretary. The factory has a capacity for the employment of 200 hands.

TRADE OPPORTUNITY IN FRANCE.

A GENTLEMAN in Paris, who has been connected with the rubber industry for twenty years, having managed important rubber factories in both France and Germany, and who now is a consulting engineer for important concerns in the industry, writes to THE INDIA RUBBER WORLD to say that he is in a position to sell American rubber and other machinery, and he invites correspondence through the office of this journal.

HALL SECTIONAL TIRE CHANGES HANDS.

THE Consolidated Rubber Tire Co. have purchased from Frank E. Hall, of Boston, the right to use his sectional rubber vehicle tire. This tire has been tested extensively by the Electric Vehicle Co. in New York city, and is regarded as being well adapted for use on heavy automobiles, on account of its staying qualities, besides which it is claimed to require less current than either the ordinary solid or the pneumatic tire. The Hall tire manufactured originally by the Newton Rubber Works, was fully described and illustrated in THE INDIA RUBBER WORLD of August 1, 1898.

SPRINGFIELD RUBBER TIRE ROCKER CO.

THIS company was organized at Springfield, Ohio, June 1, to control the invention of James D. Berry for rubber bases for chair rockers. It is composed of A. T. Sweetser and Charles Bird.

NEW YORK STOCK EXCHANGE FIGURES.

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending July 27	1,000	30	26¾	600	78	77½
Week ending Aug. 3	1,000	31	29½	200	78⅞	78½
Week ending Aug 10	4,200	29	26	200	77	76½
Week ending Aug. 17	400	29¼	27	..	..	..
Week ending Aug. 24	2,600	31¼	28	600	79	77

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 27	1,100	20	19	1,650	59¾	58
Week ending Aug. 3	2,060	19⅞	18	2,400	58⅝	55
Week ending Aug. 10	445	18	17¼	268	56	55
Week ending Aug. 17	—	—	—	335	56	56
Week ending Aug. 24	1,200	20⅞	18	800	59	57¼

COMBINATION RUBBER AND BELTING CO.

THE factory at Bloomfield, New Jersey, is reported to be very busy in all departments. The facilities are being increased in the way of hydraulic presses, heaters, etc. It is contemplated to put up an additional building, to contain belting and hose rooms, at an expense of about $30,000. The company have been particularly active in the manufacture of their "Indestructene" belt, and also molded goods. They have a new catalogue in the hands of the printers.

TRADE NEWS NOTES.

THE Manhattan Rubber Manufacturing Co. (New York) have been at work for some time past on extensions to their factory, at Passaic, New Jersey, which will be completed by the end of the summer, largely increasing the capacity of the plant.

=The Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.) have opened a store in New York, at No. 106 Duane street, under the management of James Huggins, who has been identified with the rubber footwear trade for many years.

=The Hood Rubber Co. (Boston), have issued a handsome new lithographed hanger, representing "Little Red Riding Hood" wearing a pair of dainty rubber boots of the Hood make.

=The Philadelphia Museum reports that its foreign bureau has heard from a Hongkong firm who stand ready to give a good order for American rubber shoes. English goods in this line have held that market hitherto.

=The annual convention of the New England Stationary Engineers, at Springfield, Massachusetts, early in August, attended by about 250 delegates, was made an occasion for an exhibition of packings and asbestos goods for boilers and pipes, of which many manufacturers took advantage.

=The Industrial Trust Co. (Providence, Rhode Island), of which Colonel Samuel P. Colt, of the rubber industry, is president, has increased its capital from $1,200,000 to $1,500,000. The Hon. Levi P. Morton, of the Morton Trust Co. (New York), has become a director in the Industrial.

=The North American Rubber Co. is now the corporate title of what was formerly the American Rubberine Co., with offices at No. 135 Broadway, New York, and factory at Marion, New Jersey. They are manufacturing not only "Rubberine," but also some specialties in molded rubber work in which their substitute is included. Their latest product is the "Black V Heel."

=The Hartford Rubber Works Co. have established a depot at Des Moines, Iowa, with the Harrah & Stewart Manufacturing Co., for the sale and attachment of their solid rubber carriage tires.

=William Jameson has resigned as superintendent of the Fisk Rubber Co. (Chicopee Falls, Mass.) to accept the superintendency of the Goshen Rubber Works, (Goshen, Indiana). Mr. Jameson's record at the Fisk factory was a good one and he can be relied upon to do excellent service in his new position.

=The Manufactured Rubber Co. (Philadelphia), it is reported, will again be reorganized. Operations thus far have not fulfilled expectations, but the officials think that new methods of manufacture in prospect will make a wider market for their product. The high price of linseed oil has been unfavorable to the company, but they are reported to be paying expenses.

=The Easthampton (Mass.) Rubber Thread Co. are about to extend their new mill 50 feet at the east end, making it 250 feet long. C. W. Smith, who built the mill, has the contract for the extension.

=The Vim Co. (Chicago), makers of the "Vim" bicycles, catalogue also two styles of tires, bearing the company's brand One is called the "Alligator" puncture proof self healing tire, of the single tube type. The other, the "No. 80" double tube tire, patented, is described as being "the first double tube tire ever placed on the market that is exactly like the Morgan & Wright and still does not conflict with that patent." These tires are described as being made in Chicago.

="Grand Rapids in the Year 1901" is the title of an attractive booklet issued by the board of trade of Grand Rapids, Michigan, containing much information relative to the business of that city and illustrated with views of the leading industrial and business establishments. A prominent space is given to the Grand Rapids Felt Boot Co., manufacturers of felt and rubber boots.

=The Apsley Rubber Co. (Hudson, Mass.) are sending out an advertising novelty in the form of a folder, in the pocket of which there is placed a piece of courtplaster.

=The salesmen of the Linthicum Rubber Co. (Baltimore, Md.), to the number of eleven, had an outing, beginning August 9, going by water to Providence, R. I., where is located the factory of the Joseph Banigan Rubber Co., whence they went to Newport, New York, and Long Branch.

=Patterson & Co., druggists, of Heppner, Oregon, send to THE INDIA RUBBER WORLD a 4 page circular, 8″×10″, calling the attention of their customers to the rubber goods they handle, and pointing out the advantages of the same. The circular is well illustrated, and the method appears to be a good one to further the sale of the articles described.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) are reported to have closed a contract, involving $50,000, for equipping with their endless solid rubber tires the electric cabs of the New York Electrical Transportation Co.

= Owing to the liquidation of the rubber business of Otto G. Mayer & Co. (New York), Mr. George R. Meeker, who was one of the most successful and popular men, has gone into the rubber brokerage business for himself, with offices at Nos. 78-80 Broad street, New York.

= Otto G. Mayer & Co., importers of crude rubber, New York have gone into liquidation, and will give up the crude rubber business entierly.

=F. H. Cooley, dealer in cycles and sundries, Westfield, Massachusetts, has added to his stock a line of rubber goods—including hose, mats, druggists' sundries, and the like. There has not been a rubber goods store in Westfield hitherto.

=The annual picnic of the employés of The La Crosse Rubber Mills Co. (La Crosse, Wisconsin) was to take place on August 30. Their yearly picnics have always proved very successful.

=The Stamford Rubber Supply Co. (Stamford, Connecticut) are now fully started in business, in the manufacture of rubber substitutes and dealing in rubber manufacturers' supplies generally. The manager of this company is P. Carter Bell, who is very generally known as a chemist of experience in relation to the rubber industry.

NEW INCORPORATIONS.

WATERBURY Rubber Manufacturing Co. (New York), July 3, under New York laws; capital, $100,000. Directors: A. H. Howe, Jersey City, N. J.; G. A. Howe, Vineland, N. J.; W. J. Beairsto, Yonkers, N. Y. This company have done a jobbing business as a partnership since 1882 and as a New Jersey corporation since 1888. Under the new charter there has been an increase of capital and new features are understoood to be in prospect.

=Pneumatic Mattress and Cushion Co. (New York), July 30, under New York laws, to manufacture rubber air goods; capital, $100,000. Frank L. Sill, president; B. F. Funk, treasurer; W. J. Shilladay, secretary (and superintendent and general manager); W. J. Wheeler, V. Hybinette, and O. L. Simpson, additional directors. Office: No. 3 South street, New York; factory at Reading, Mass. The new company succeed a corporation of the same name formed under West Virginia laws, at Reading, Mass., something over two years ago. Mattresses and cushions are made for steamers, yachts, camping outfits, household use, etc., under patents granted to A. A. Young, who was connected with the old company and is associated with the new. The goods were described in THE INDIA RUBBER WORLD of April 1, 1899 [page 186.]

=The Standard Rubber Co., June 3, under Ohio laws. Incorporators: H. S. Walton, C. E. S. Hickey, Ely C. Hammerle, E. I. Smith, Manus Shoemaker—said to be of Akron, Ohio. A report from Akron states that "the parties must be people from out of town, as no one seems to know them here."

=Crescent Flexible Armor Hose Co. (Trenton), July 31, under New Jersey laws, to manufacture rubber goods, but particularly steel and iron armor for rubber hose, and insulated wire and cables; capital, $25,000. Incorporators: C. Edward Murray, Samuel Cadwalader, Edgar T. Phillips.

PERSONAL MENTION.

THE HON. ELISHA S. CONVERSE, president of the Boston Rubber Shoe Co., on Sunday, July 28, celebrated his eighty-first birthday, quietly, with his family and a few friends, at his home in Malden, Massachusetts. In the morning he attended the First Baptist church, where the sermon was by the Rev. Dr. D. W. Faunce, Mr. Converse's former pastor, but now of Providence, Rhode Island. Later Dr. Faunce dined at Mr. Converse's home. Mr. Converse is apparently in as good health as when, a year ago, a large number of friends joined him in the celebration of his eightieth birthday, of which the INDIA RUBBER WORLD gave an account at the time.

=Mr. Frank H. Turner, who was elected recently vice president of the Hartford Rubber Works Co., is mentioned by the Syracuse *Post-Standard*, as being native of Malone, New York, which town he left eighteen years ago to go to Hartford.

= Mr. Georg M. Hassel, manager of the Aktieselskabet den Norske Galoge- og Gummivarefabrik—the first and only rubber factory in Norway, located at Drammen, near Christiana—was in the United States lately, on his second visit to this country, and favored THE INDIA RUBBER WORLD with a call. He was concerned principally with the examination of new rubber machinery. The production of the Drammen factory is mainly "galoches." Beginning May 1, 1898, the manufacture of these goods has been carried on with such success that it is estimated that the company now supply three-fourths of the Norwegian demand. Prior to that date most of the rubbers worn there came from Russia.

=Willis A. Darling has been spending the summer at Camp Sunshine, on Moosehead Lake, Maine. He has his family with him and is having a most delightful vacation in one of the prettiest camps on the Lake, a camp, by the way, in which he is half owner and where he has spent a part of the fishing season for many years.

=The death of Jonathan Stewart, at Trenton, New Jersey, July 26, recalls the heavy loss which he sustained in the collapse of the Star Rubber Co., in that city, in 1891. The company was in entire charge of its secretary, the late Thomas A. Bell, whose operations led to a failure involving over $1,000,000. Mr. Stewart was then a prosperous grocery merchant, but his business was ruined by having to pay $300,000 on account of the rubber failure. Although in his eighty-third year at the time, he reëntered active business again, in an attempt to recoup his fortune.

MAHONING RUBBER MANUFACTURING CO.

THIS new company has fixed upon a line of trade marks, or brands, for their goods that are distinctive in appearance and not at all likely to become confused with those of any other factory. Several of these brands are shown in *fac simile* in the company's advertisement in this paper.

NEW RUBBER COMPANY IN CANADA.

THE Strathcona Rubber Co. have been incorporated, in Montreal, to manufacture rubber clothing and other rubber goods, with an authorized capital of $50,000, of which $25,000 has been subscribed. The largest stockholder and general manager of the company is E. L. Rosenthal, some time superintendent of the coat department of the Canadian Rubber Co.

A NEW TIRE FABRIC.

A PATENT has been allowed and will issue September 10, to C. E. Woodward (Chicopee Falls, Mass.), for "Fabrics for Use in the Production of Air-tight Tubing." It has already seen extensive service, having been used for fifteen months in the manufacture of several thousand automobile and carriage tires and with marked success. The fabric is designed especially to meet the requirements of heavy vehicle tires, but in its various forms it may be utilized in all kinds of pneumatic tires, and also hose.

This fabric differs from ordinary close woven fabric, in that the warp and the woof are different in character, and each has a distinct function in the completed tube or tire. The warps are hard, cable-twisted yarns which resist all tensional strains, while the woofs are single-twisted soft padding threads, which protect the warps from abrading each other, instead of acting to abrade them, as is the case in ordinary close woven fabrics. The soft woof threads also help to distribute all strains and improve the puncture-resisting quality of the tire, on the same principle as the use of wadding. In building up a tube or tire, layers of the improved fabric are applied in the usual manner, so that the strong warp threads of one layer or coil of fabric are crossed at right angles by the warp threads of the other layer or coil.

Tires made from this fabric are stronger from the fact that when fully inflated the soft woofs allow all of the warps to come to a uniform tension, in which condition they resist all strains from within or without to the best advantage. The tires also are notably easy riding, as the fabric has all the speed quality of the thread fabric in which no woofs are used; they are durable and repairable, as the fabric has all the advantages of a stable close woven cloth; they are seldom punctured, as the soft woofs compacted by pressure resist like wadding. In automobile or vehicle tires, where several layers of fabric are used, this fabric is especially valuable, as by means of it internal friction in the thick wall of the tire is reduced to a minimum.

CHEMISTRY OF INDIA-RUBBER.

IN a paper on India-rubber read by Frederick Davis at a meeting of the London Chemists' Assistants' Association the author remarked that the latter, like the milk of animals, consists of a number of oil globules held in suspension in the form of an emulsion. Chemically, this oil, in the case of rubber, is a terpene, $C_{10}H_{16}$, which, by oxidation, becomes an oxidized terpene, or resin; hence its liability to "perish," the juice becoming oxidized so that the resin is formed and the mass becomes brittle. The author mentioned that the *latices* of *Hevea Brasiliensis*, *Hevea confusa*, *Castilloa elastica*, and *Manihot Glaziovii* contain very little resin, and do not readily oxidize; consequently the rubber from those plants is of greater service and more in demand than that from other sources. He also stated that the *latex* may be stored in stoppered bottles for some little time without any apparent change taking place, but eventually it becomes solid. In regard to coagulation, experience has shown that the *latex* may be kept free from coagulation for a time by the addition of a dilute solution of ammonia, but heat or the presence of an acid of any kind favors coagulation. Mr. Davis mentioned that, in order to promote the rapid production of rubber, the suggestion has been made that seeds of plants yielding rubber should be planted annually, and that the year-old plants should be pulled up and boiled in water, when rubber would separate. Such a method would not, in his opinion, answer, because he found that no true rubber is produced in the first year, but a modification, to which the term "viscin" has been given, having the plasticity of rubber but not the durability.—*Druggists' Circular.*

RUBBER NOTES FROM EUROPE.

THE Dunlop Pneumatic Tyre Co., Limited, brought suit against David Moseley & Sons, rubber manufacturers, of Manchester, England, to obtain a construction of an agreement whereby the plaintiffs were to have the exclusive use of the "Flexifort" tire fabric, of which the defendants are the patentees. The Dunlops were to take not less than 100,000 yards per year. It was claimed in this action that the Moseleys were selling a fabric practically similar to the "Flexifort" to other tire firms. Mr. Justice Joyce, after hearing the testimony, decided that the "string cloth," which the Messrs. Moseley were selling for tires, at a lower price, did not come within the definition of "Flexifort" patent cloth, as described in the agreement.

=The French ministry of public works has issued a circular to the railways, relative to hygienic precautions against infection. Sweeping and dusting in the cars is prohibited, and washing required. The companies are requested to remove all unwashable floor coverings, and substitute those of rubber or linoleum.

=In the British house of commons on July 15, a member of the government stated that the manufacture of the Pacific cable would be begun during the week, and that the cable board was satisfied as to the ability of the contractors to complete the work by the end of 1902. There had already been paid on the contract, on March 31, £207,433. The house of commons has since voted so much of £2,000,000 (=$10,000,000) as may be required to pay the home government's share in the cost of the cable. The Pacific Cable board have been advertising for a general manager for the cable. The Telegraph Construction and Maintenance Co., Limited, the contractors for the cable, are having built an additional cable ship, to be employed in laying the new line.

=The Asbest- und Gummiwerke Alfred Calmon. Act.-Ges. (Hamburg, Germany), have taken new and larger quarters in London, at 6, Sheppy place, Minories, where they occupy an entire building.

=The Goodyear Tire and Rubber Co. (Akron, Ohio), are represented in London by Davis, Allen & Co., at 5-7, Singer street, Tabernacle street, and are introducing detachable double tube tires, under the Scott-Rogers patent.

=The Frankfurter Asbestwerke Actiengesellschaft (Frankfort o/M.), with 1,200,000 marks capital, earned during the business year 1900, after writing off 67,786 marks, a surplus of 183,776 marks, disposed of as follows: 12 per cent. dividend, 144,000 marks; reserve, 9035; royalties, 16,100; gratification to officers, 5000; guaranty fund, 4337; carried forward, 5302 marks.

THE Amazon Steam Navigation Co., Limited, held their annual meeting in London July 25. The profits during 1900 permitted dividends to be declared amounting to 4 per cent. During the latter half of 1900 their business shared in the general depression in Brazil. At the end of the year there was due them from the governments at Pará and Manáos arrears of subsidies amounting to £28,311, and from merchants £50,000, of which latter amount £10,000 had since been collected. Two of the company's old steamers had been retired, and four new ones added to the service.

REVIEW OF THE CRUDE RUBBER MARKET.

THE tendency of the rubber market is again upward, the most marked change for several months past having taking place during the latter half of August. In various articles printed in this issue indications occur of conditions pointing to such a change in relation to Pará sorts. Two immediate causes for the recent advance have been referred to, viz.: Active buying for account of some manufacturers who delayed their purchases in the hope that prices would go still lower, and buying to cover "short" sales made some time ago, at prices lower than now obtained in any market. The demand in European markets is good, and stocks in primary markets low. With regard to the effect upon the manufacturing interest of such fluctuations as the rise witnessed during the past month, it is probable that many concerns are in a position to be inconvenienced much less than once would have been the case. As THE INDIA RUBBER WORLD said in February last: "Manufacturers have it in their power, to a certain extent, to protect themselves against some of the unpleasant effects of fluctuations in prices by keeping on hand larger stocks of rubber, instead of the 'hand to mouth' policy of buying." There is reason to believe that this method of creating an "invisible supply"—the extent of which no speculative interest can figure on—is becoming more generally adopted from year to year, and it cannot fail to result beneficially to the industry. Without such reserves, the consumer is at all times exposed to the danger that prices may suddenly go up, without his having time first to replenish his stocks.

New York quotations on August 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new.....85	@86	Tongues..... 46	@47
Islands, fine, old.....87	@88	Sierra Leone 47	@65
Upriver, fine, new....89	@90	Benguella. 53	@54
Upriver, fine, old.....90	@91	Cameroon ball.....46	@47
Islands, coarse, new...47	@48	Flake and lumps.....33	@35
Islands, coarse, old...	@	Accra flake.....17	@18
Upriver, coarse, new..64	@65	Accra buttons 46	@47
Upriver, coarse, old...66	@67	Accra strips.....	@
Caucho(Peruvian)sheet 53	@54	Lagos buttons.....45	@46
Caucho (Peruvian) ball 64	@65	Lagos strips.....	@
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage...54	@55	Madagascar, black	@
Guayaquil, strip.....50	@51	EAST INDIAN.	
Nicaragua, scrap ... .53	@54	Assam.....60	@61
Mangabeira, sheet....40	@41	Borneo 36	@46

Late Pará cables quote:

	Per Kilo.		Per Kilo
Islands, fine.	6$000	Upriver, fine.....	7$000
Islands, coarse	2$700	Upriver, coarse.....	4$400

Exchange 10 1/32 *d.*

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During August the market for commercial paper has been quite steady, with a fair demand from out of town banks at 4½ @ 5 per cent. for the best rubber names, and 5½ @ 6 per cent. for the smaller ones, but city banks have not been buying much."

Para.

A CORRESPONDENT writes: "The Islands crop for the new season is reported to be a very good one, thus partially compensating for an underproduction in the upriver districts. Altogether a final decrease of 10 per cent. as compared with the last crop, is anticipated." Other estimates are as high as 20 per cent. shortage.

July receipts at Pará, including transshipments from Manáos, exceeded somewhat the estimates made in advance. At last advices, however, it did not appear as if the estimated receipts for August would be forthcoming. The estimate was 1500 tons, including 100 tons of Caucho. Receipts for the first 26 days of the month were 1000 tons, including 95 tons of Caucho.

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.				
	Fine and Medium.	Coarse.	Total 1901.	Total 1900.	Total 1899.
Stocks, June 30.....tons	792	87 =	879	603	418
Arrivals, July	265	183 =	448	308	371
Aggregating.....	1057	270 =	1327	911	789
Deliveries, July.....	423	180 =	603	413	438
Stocks, July 31.....	634	90 =	724	498	351

	PARÁ.			ENGLAND.		
	1901.	1900.	1899.	1901.	1900.	1899
Stocks, June 30.....	37	160	350	1025	1475	1000
Arrivals, July.....	1115	760	1050	605	675	220
Aggregating.....	1152	920	1400	1630	2150	1220
Deliveries, July.....	937	550	1140	700	650	550
Stocks, July 31...	215	370	260	930	1500	670

	1901.	1900.	1899.
World's supply, July 31....	2536	2651	1941
Pará receipts, July 1 to July 31.....	1115	760	1050
Afloat from Pará to United States, July 31..	35	98	91
Afloat from Pará to Europe, July 31.....	632	155	549

United States Rubber Imports.

For fiscal years ended June 30—in pounds:

FROM.	1899.	1900.	1901.
United Kingdom.	10,735,223	8,611,061	7,461,673
Germany	1,887,161	1,750,498	1,673,234
Other Europe.....	6,103,926	6,626,648	7,854,828
Central America	1,486,783	1,428,224	1,279,099
Mexico	324,730	420,612	297,691
West Indies.....	30,069	12,291	45,578
Brazil.....	27,464,654	28,175,787	34,900,198
Other South America.....	1,981,291	1,642,191	1,255,041
East Indies.....	999,877	643,793	466,056
Africa...	5,734	....	....
Other Countries.....	43,618	66,033	42,131
Total.....	51,063,066	49,377,138	55,275,529
Value.....	$31,707,630	$31,376,867	$28,455,383
Average, per pound.....	62.09 cts.	63.54 cts.	53.28 cts.
EXPORTS of Rubber.....	2,806,494	3,751,698	3,305,945
Net Imports.....	48,256,572	45,625,440	51,969,584

Crude Rubber Exports from New York.

DURING April crude India-rubber was shipped from the port of New York, in value as follows: To Liverpool $64.033; other British ports $15,053; Hamburg $684; Havre $800; Rotterdam $955; Stockholm $1749; all other ports $496; total $83.770.

During May, June, and July, such exports were:

To Liverpool.....	$276,322	
To London.....	61,652	
To other British ports..... ...	5,943	
To Hamburg.....	61,466	
To Havre....	18,396	
To Stockholm.....	1,003	
To other ports....	4,883	$429,665

Liverpool.

MARIUS & LEVY report [August 15]: "There is not the slightest doubt but that the next [Pará] crop will be short by about 20 per cent., the discrepancies all round amounting to something like 4000 to 5000 tons, and the present weakness of the market will, in our opinion, not be of long duration. Our senior partner, who has just returned from a year's sojourn in Amazonas, strongly confirms our views. Last year the Pará and Peruvian stocks were, on August 1, 1489 tons, and price for Fine was 4/— @ 4/0½. This year the stock was 932 tons, and price of Fine 3/7 @ 3/7¼, and meanwhile the consumption has increased nearly 6 per cent.. Another unexpected fall in the receipts is in the Bolivian kinds, business having been exceedingly bad on the rivers Madeira, Beni, Acre, etc., combined with the late heavy losses and disasters in the trade. It is apparent that there is no inducement for merchants to send goods and foodstuffs to that district." This firm is still of the opinion that the price of 4/6 is likely to be attained before the end of the year.

J. J. Fischer & Co., Limited, report Liverpool stocks:

	Apr. 30.	May 31.	June 30.	July 31.
Pará: Fine	1082 tons	854 tons	790 tons	747 tons
Medium	179 "	149 "	112 "	93 "
Negroheads	255 "	241 "	178 "	127 "
African	792 "	852 "	768 "	728 "
Peruvian	294 "	371 "	433 "	375 "
Mangabeira	418 pkgs	378 pkgs	331 pkgs	401 pkgs
Pernambuco	162 "	— "	— "	160 "
Ceará	1156 "	1105 "	804 "	954 "
Manicoba	122 "	31 "	2 "	2 "
Assaree	495 "	494 "	389 "	329 "
Mollendo	6 "	14 "	118 "	27 "

London.

JACKSON & TILL, under date of August 1, report stocks:

		1901.	1900.	1899.
LONDON	Pará sorts tons	—	—	—
	Borneo	142	140	81
	Assam and Rangoon	63	31	47
	Other sorts	522	486	370
	Total	727	657	498
LIVERPOOL	Pará	932	1489	663
	Other sorts	1285	1499	717
Total, United Kingdom		2944	3645	1878
Total, July 1		3128	3653	2247
Total, June 1		3502	3624	2510
Total, May 1		3397	3952	2129

PRICES PAID DURING JULY.

	1901.	1900.	1899.
Pará fine	3/6 @ 3/9	3/9½ @4/—	4/1 @4/3
Negroheads, Islands	1/10½@ 2/1	2/0⅜ @2/1½	....
Do scrappy	2/6½ @ 2/7½	2/10 @2/10½	3/2½@3/3
Bolivian	3/8 @3/9	@4/—	4/3 @4/3½

Lisbon.

MARTIN WEINSTEIN & CO. favor THE INDIA RUBBER WORLD with this statement of the arrivals at Lisbon from Portuguese Africa for three fiscal years, ending June 30, in metric tons:

	1898-99.	1899-1900.	1900-01.
Benguella sorts	2100	1893	1026
Loanda	1002	703	733
Thimbles	170	293	178
Total	3272	2889	1937

They suggest that the falling off in the output from this quarter is due to the wasteful practices of the natives in collecting rubber.

Rubber Exports from Benguella.

CUSTOM house figures—fiscal years ended June 30—pounds:

1893-94	2,885,300	1897-98	4,625,394
1894-95	2,572,020	1898-99	4,568,032
1895-96	3,345,540	1899-1900	3,835,018
1896-97	3,354,340	1900-01	2,212,360

Mangabeira Rubber.

EXPORTS during April from Santos, Brazil, to Hamburg were as follows:

By Otto Schlodtmann kilos	900	
By Theodor Wille & Co	2588	
By Otto Schloenbach	552	3040

Exports during May amounted to:

By Otto Schlodtmann kilos	2300	
By Z Bilow & Co	300	
By Theodor Wille & Co	1814	4414

We Are Now Ready

to submit samples and make prices on Tires, Matting, Shoe Soles, Heels, Horseshoes and other Rubber Goods. : : : :

THE TUSCARORA RUBBER CO., Beach City, Ohio.

Mention The India Rubber World when you write.

POSITIONS WANTED.

HOSE MAKER.—Position by expert hose maker, who has had several years' experience as foreman of hose room, can furnish first class compounds: not a drinking man. Address, M. J., care of THE INDIA RUBBER WORLD. [77]

SALESMAN.—Rubber salesman who has had a thorough experience with one of the leading manufacturers, is open for engagement. Thoroughly familiar with the tire business; age 27. Address X., care of THE INDIA RUBBER WORLD. [78]

RUBBER SUBSTITUTE.

FOR SALE, the American patent of a new substitute (floating, white), superior to the best on the market, and already appreciated in Europe. Enormous profit for the manufacturer. Address SUBSTITUTE, care of THE INDIA RUBBER WORLD. [38]

TO EUROPEAN RUBBER MANUFACTURERS.

THE advertiser controls a full and competent staff of workers in the manufacture of high grade rubber shoes. This staff includes superintendent, assistant superintendent, and foremen of various departments, competent to teach all parts of modern rubber shoe manufacturing, prepared to go to any part of Europe, and if need be to build and equip a modern plant. Address, PROGRESS, care of THE INDIA RUBBER WORLD. [56]

RUBBER PLANTING.

GOING Mexican Plantation Co. has good salaried position for competent man able to manage office, and take "ground floor" interest. No delay; quick returns. Address, Room 419, Rialto building, Chicago, Illinois. [76]

FOR SALE.

FACTORY.—Fully equipped Rubber Factory, including full line of machinery, with molds and valuable patents, etc. Capacity, $150,000 a year; well established trade; only reason for selling, must give up business on account of health. Address RUBBER FACTORY, care of THE INDIA RUBBER WORLD. [60]

PRESS.—For sale at a low price, small Vulcanizing Press in A1 condition; Plate 15"x12"; Opening 2"; Weight 550 pounds. THE INCANDESCENT ELECTRIC LIGHT MANIPULATOR CO., No. 116 Bedford street, Boston. [68]

SEWING MACHINES.—200 Wheeler & Wilson and Singer sewing machines, 10 Two-Needle machines, 1 Baring machine, 4 or 5 Button Sewing machines, 3 Button-hole and a Cording and Braiding machine. Address M. C. C., care of THE INDIA RUBBER WORLD. [63]

BUSINESS OPPORTUNITY.

MECHANICAL AND CIVIL ENGINEER, well known in Germany, Austria, and Russia, desires to act as permanent European representative for a line of Belting and Packing, especially high grade leather. Correspondence solicited. ENGINEER, P. O. Box 718, New York. [64]

Antwerp.

ANTWERP RUBBER STATISTICS FOR JULY.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stock, June 30. Kilos	954,579	726,376	503,997	125,665	168,179
Arrivals in July....	470,662	657,767	247,314	248,156	121,395
Congo sorts.....	458,423	632,149	208,702	209,043	109,964
Other sorts.....	12,239	25,618	38,612	39,113	11,431
Aggregating...	1,425,241	1,384,143	751,311	373,821	289,574
Sales in July	384,800	250,441	406,106	117,558	167,641
Stock, July 31.....	1,040.441	1,133,702	345,205	256,263	121,933
Arrivals since Jan. 1	3,552,054	3,669,230	2,096,266	1,114,211	870,637
Congo sorts.....	3,243,557	3,121,175	1.813,808	954,827	796,022
Other sorts	308.497	548,055	282,458	159,384	74,615
Sales since Jan. 1 ..	3,125,652	2,827,519	2,014,401	952,411	887,973

ARRIVALS AT ANTWERP.

AUGUST 10.—By the *Albertville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo)...kilos	150,000	
Bunge & Co. (Plantations Lacourt).....	4,600	
Comptoir Commercial Congolais.....	27,000	
Ch. Dethier (Société La Loanjé).	950	
M. S. Cols (Central Africaine)	8,000	
M. S. Cols (Produits Vegetaux du Kassai).....	14,000	
M. S. Cols (Société Lubefu)	9,000	
Crédit Commercial Congolais (La Lulonga).....	3,100	
Société Coloniale Anversoise (Belge du Haut Congo).	39,000	
Soc. Coloniale Anversoise (Cie. des Mag. Généraux)	2,250	
Comptoirs Congolais Velde...	2,000	
Société pour Commerce Colonial (Est Kwango).....	8,400	
Cie. Commerciale des Colonies (La Kassaienne)....	1,900	
Trafic Congolais.....	1,200	
Comité Spécial Katanga.....	6,800	278,200

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The improved condition, generally, has imparted to the Hamburg rubber market a certain feeling of confidence; this has been accelerated by the small receipts of Pará sorts. The transactions have been of minor importance, the middle sorts being the only exception. Of these, Africans—Thimbles (first and second), Benguela and Loanda Niggers, Massais, Sierra Leones and Batangas—have held the preference. Of the West India and Central American sorts, Equador scraps and Guatemala and Mexican slabs received the most attention, but prices remained nominally without change. Mangabeira and Borneo were not at all considered. The transactions included:

PRICE IN MARKS PER KILOGRAM.

Fine Bolivian.....	8.20@8.25	Sierra Leone niggers, second.....	4.25
Fine Mollendo.....	7.90	Congo Thimbles, black	5.10@5.15
Mozambique balls, red, finest	7.70@7.75	Kassai, prime. red....	6.
Mozambique balls, red, fine.....	7.50@7.60	Batanga balls, prime..	4 05@4.10
Mozambique balls, red and black.....	7.	Kamerun balls, prime.	3 85@4.
Massai Niggers, red, prime.....	5.75 5.80	Equador scraps, fine..	5.35
Sierra Leone niggers, prime	5.50	Colombia scraps, fine..	5.35@5.40
		Guatemala Slabs.....	3.90
		Mexican Slabs.	3.80@3.85
		Tonquin Sausages, red	4.85@4.90

Hamburg, August 14, 1901.

UNDER date of July 1 it is announced that under the style Hecht & Co., G. m. b. H., has been opened in Hamburg an import and export business in raw materials, and especially crude India-rubber. The members of the firm are Hecht, Freres & Co., of Paris; Hecht, Levis & Kahn, London and Liverpool; and Ernst Hecht, Paris. As managers have been appointed Mr. Felix Dorn, of Liverpool, and Mr. Jacques Ullman, of Hamburg, who are authorized to sign for the firm individually. [G. m. b. H. signifies *Gesellschaft mit beschrankter Haftung*, or limited liability company.]

IMPORTS FROM PARA AT NEW YORK.

[*The Figures Indicate Weights in Pounds.*]

July 27.—By the steamer *Sobralense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	15,100	8,800	28,100	2,600=	54,600
Reimers & Co.....	12,100	3,200	33,300	.....=	48,600
A. T. Morse & Co..	19,200	3,100	10,800	2,400=	35,500
Crude Rubber Co.....	25,700	2,900	4,700	.....=	33,300
Smith & Schipper.....	9,400	1,000	1,400	1,000=	12,800
G. Amsinck & Co	.....	.....	1,200	.....=	1,200
Total.....	81,500	19,000	79,500	6,000=	186,000

August 5.—By the steamer *Benedict*, from Manáos and Pará:

Crude Rubber Co.....	19,700	4,300	6,100	.....=	30,100
A. T. Morse & Co.....	3,000	700	11,600	3,700=	19,000
New York Commercial Co.	3,000	1,700	7,000	.....=	11,700
G. Amsinck & Co.....	6,100	.....	700	.....=	6,800
Total.....	31,800	6,700	25,400	3,700=	67,600

August 15.—By the steamer *Cearense*, from Manáos and Pará

New York Commercial Co.	109,300	4,700	27,000	8,500=	149,500
Crude Rubber Co	48,900	4,700	8,000	900=	62,500
Reimers & Co..... ...	72,800	9,300	26,600	2,600=	111,300
A. T. Morse & Co.... ...	18,000	4,400	61,200	7,400=	91,000
Czarnikow, McDougal Co.	8,000	4,400	.....	.... =	12,400
Total...	257,000	27,500	122,800	19,400=	426,700

[NOTE.—The steamer *Cametense*, from Pará, with 250 tons of rubber, was due at New York, August 28.]

PARA RUBBER VIA EUROPE.

	POUNDS.	
JULY 29.—By the *Etruria*=Liverpool:		
George A. Alden & Co. (Caucho).....	15,000	
AUG. 3.—By the *Campania*=Liverpool:		
Robinson & Tallman (Coarse).....	11,500	
A. T. Morse & Co. (Coarse).	1,000	12,500
AUG. 5.—By *La Normandie*=Havre:		
A. T. Morse & Co. (Caucho).....		25.000
AUG. 17.—By the *Lucania*=Liverpool:		
Robinson & Tallman (Fine).....		2,000
AUG. 22.—By the *Teutonic*=Liverpool:		
A. T. Morse & Co. (Coarse)...		7,000
AUG. 23.—By the *Patricia*=Hamburg:		
A. T. Morse & Co. (Caucho).....		15,000

OTHER IMPORTS AT NEW YORK.

CENTRALS.

	POUNDS.	
JULY 26.—By the Pennsylvania R. R.=Mexico:		
G. Amsinck & Co..... ...	1,500	
L. N. Chemedlin & Co....	2,000	
G. Amsinck & Co.....	500	4,000
JULY 27.—By the *Esperanza*=Mexico:		
E. Steiger & Co.....	5,000	
H. Marquardt & Co.....	1,000	
F. Probst & Co.	500	6,500
JULY 29.—By the *Prins Willem II*=Trinidad:		
Thebaud Bros., (Angostura Fine)...	23,300	
Thebaud Bros., (Angostura Coarse)	17,000	40,300
JULY 29.—By the *Paraense*=Maranham:		
G. Amsinck & Co.....	4,500	
Hagermeyer & Brunn	300	
W. H. Crossman & Bros.....	100	4,900
JULY 29.—By the *Alleghany*=Greytown:		
A. P. Strout..... ...	5,000	
Andreas & Co	2,500	
G. Amsinck & Co	1,200	
Eimenhorst & Co	300	
Jimenez & Escobar.....	6,000	
Punderford & Co.....	2,000	
D. A. De Lima & Co.....	1,500	18,500
JULY 29.—By the *Proteus*=New Orleans:		
A. T. Morse & Co.....		4,000
JULY 30.—By the *Advance*=Colon:		
Isaac Brandon & Bros.....	3,000	
Crude Rubber Co.....	2,300	
D. N. Carrington..... ...	2,000	
Kunhardt & Co.	900	
Flint, Eddy & Co	700	
Hirzel, Feltman & Co..... ...	400	
W. L. Rathbun & Co.....	300	
W. R. Grace & Co	300	
Lawrence Johnson & Co..... .	300	10,200
AUG. 5.—By the *Altai*=Savanilla:		
Kunhardt & Co....	1,600	
S. Samper & Co.....	1,200	
G. Amsinck & Co.....	800	
Jimenez & Escobar.....	200	
Lawrence Johnson & Co.....	700	4,500
AUG. 3.—By the *Campania*=Liverpool:		
Robinson & Tallman...		4,500
AUG. 5.—By the *Grenada*=Trinidad:		
Kunhardt & Co...		13,500
AUG. 6.—By the *Alliance*=Colon:		
G. Amsinck & Co.....	5,000	
Flint, Eddy & Co.....	3,000	
Gillespie Bros.....	1,700	
Roldan & Van Sickle	1,400	
A. Santos & Co....	1,400	
Dumarest & Co.....	700	
H. Marquardt & Co.....	300	
Frank Brothers.....	200	12 700
AUG. 7.—By the Pennsylvania R. R.=Mexico:		
H. Marquardt & Co	3,500	
Graham, Hinckley & Co	500	
G. Amsinck & Co..	1,500	
Kunhardt & Co....	1,500	
Silva Bussenius & Co....	1,000	
L. Johnson & Co.....	600	
Jimenez & Escobar.....	600	
Joseph Hecht & Sons	200	
J. B. Sageman.....,..... ..	300	9,800
AUG. 9.—By the *Monterey*=Mexico:		
R. L. Johnstone.....	3.500	
Thebaud Brothers.....	1,500	
E. Steiger & Co.....	500	
E. N. Tibbals.....	300	
For Europe	4,000	9,800
AUG. 12.—By the *Alene*=Greytown:		
Maltus & Ware.....	6,000	
A. P. Strout.....	3,000	
G. Amsinck & Co....	2,000	

Graham, Hinckley & Co.	300	
D. A. De Lima & Co.	1,500	
Roldan & Van Sickle	500	
Kunhardt & Co.	300	13,600

AUG. 14.—By *El Dorado*=New Orleans:

A. N. Rotholz	17,000	
A. T. Morse & Co.	12,000	
Eggers & Heinlein	3,000	
For Europe	2,000	34,000

AUG. 13.—By the *Finance*=Colon:

G Amsinck & Co.	6,700	
Flint, Eddy & Co.	4,900	
W. R. Grace & Co	3,900	
A. M. Capen Sons	3,700	
Mecke & Co	1,100	
Silva Bussenius & Co	1,000	
Joseph Hecht & Son	600	
A. P. Strout	300	22,200

AUG. 17.—By the *Lucania*=Liverpool:

Robinson & Tallman	5,500	
Livesey & Co.	2,500	8,000

AUG. 16.—By the *Havana*=Mexico:

Fred. Probst & Co	1,000	
H. Marquardt & Co.	1,000	
Thebaud Brothers.	700	
H. W. Peabody & Co	300	3,000

AUG. 19.—By the *Carib II*=Truxillo, etc.:

Eggers & Heinlein	19,000	
H. W. Peabody & Co	500	
K. Mandell & Co	300	
A. S. Lascelles & Co	300	
For Liverpool	500	20,600

AUG. 20.—By the *Orizaba*=Colon:

Hirzel, Feltman & Co.	8,900	
Flint, Eddy & Co	4,000	
G Amsinck & Co	3,400	
Frame, Alston & Co.	1,200	
Dumarest & Co	800	
W. Loaiza & Co	900	
Smithers & Co	800	20,100

AUG. 20.—By the *Athos*=Savanilla:

Roldan & Van Sickle	11,000	
Jimenez & Escobar	3,500	
D. A. DeLima & Co.	2,000	
Kunhardt & Co	1,500	
H. W. Peabody & Co	500	
Sussdorf, Zaldo & Co.	300	18,800

AFRICANS.

	POUNDS.	
JULY 25.—By the *Teutonic*=Liverpool:		
George A. Alden & Co.	11,500	
Crude Rubber Co.	11,000	22,500
JULY 27.—By the *Bulgaria*=Hamburg:		
A. T. Morse & Co.	13,500	
Robinson & Tallman	2,500	
William Wright & Co.	16,000	32,000
JULY 29.—By the *Etruria*=Liverpool:		
George A. Alden & Co.	16,500	
Crude Rubber Co.	6,000	
Reimers & Co	26,500	49,000
JULY 30.—By the *Vaderland*=Antwerp:		
George A. Alden & Co.	85,000	
Crude Rubber Co	84,000	
Reimers & Co.	14,000	183,000

AUG. 2.—By the *Germanic*=Liverpool:

George A. Alden & Co	2,500	
Livesey & Co.	2,500	5,000

AUG 3.—By the *Campania*=Liverpool:

Robinson & Tallman	19,000	
George A. Alden & Co.	6,500	
Crude Rubber Co	5,500	31,000

AUG. 7.—By the *Majestic*=Liverpool:

Crude Rubber Co	18,500	
George A. Alden & Co	10,000	28,500

AUG. 12.—By the *Tampican*=Liverpool:

A. T. Morse & Co.		45,000

AUG. 12.—By the *Umbria*=Liverpool:

George A. Alden & Co	5,000	
Crude Rubber Co. (Caucho)	4,500	
Reimers & Co	4,500	
Livesey & Co.	2,500	16,500

AUG 12.—By the *Zeeland*=Antwerp:

George A. Alden & Co.	33,500	
Crude Rubber Co.	28,000	
Reimers & Co	16,500	78,000

AUG. 17.—By the *Phœnicia*=Hamburg:

William Wright & Co.	12,000	
George A. Alden & Co	7,000	
Livesey & Co.	3,500	22,500

AUG. 17.—By the *Lucania*=Liverpool:

George A. Alden & Co.	20,000	
Livesey & Co.	18,000	
Robinson & Tallman	12,500	50,500

AUG. 19.—By the *Georgian*=Liverpool:

George A. Alden & Co.	28,000	
Crude Rubber Co.	28,000	56,000

AUG 23.—By the *Patricia*=Hamburg:

A. T. Morse & Co.	25,000	
Reimers & Co.	28,500	
George A. Alden & Co	8,000	
Livesey & Co.	6,500	68,000

AUG. 24.—By the *St. Paul*=Southampton:

Reimers & Co.		8,000

EAST INDIAN.

	POUNDS.	
JULY 29.—By the *Afridi*=Singapore:		
Reimers & Co.	11,500	
R. Brauss & Co	23,000	34,500
AUG. 19.—By the *Hilligen*=Singapore:		
D. F. Cruikshank		13,000
AUG 24.—By the *St. Paul*=Southampton:		
Reimers & Co.		5,500

PONTIANAK.

JULY 29.—By the *Afridi*=Singapore:		
Reimers & Co.	80,000	
R. Brauss & Co	62,000	142,000
AUG. 5.—By the *Ferndene*=Singapore:		
Reimers & Co.	105,000	
George A. Alden & Co.	35,000	140,000
AUG. 19.—By the *Hilligen*=Singapore:		
George A. Alden & Co	200,000	
Reimers & Co.	200,000	
R. Brauss & Co	120,000	530,000

GUTTA-PERCHA AND BALATA.

	POUNDS.
AUG. 5.—By the *Marquette*=London:	
Spaulding Manufacturing Co	6,500
AUG. 5.—By the *Ferndene*=Singapore:	
Reimers & Co.	2,500
AUG. 17.—By the *Phœnicia*=Hamburg:	
R. Soltau & Co.	7,000
BALATA.	
JULY 27.—By the *Sobralense*=Barbados:	
Middleton & Co.	1,000
JULY 29.—By the *Prins Willem II.*=Trinidad:	
George A. Alden & Co.	1,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—JULY.

Imports:	POUNDS.	VALUE.
India-rubber	2,923,584	$1,450,115
Gutta-percha	51,983	21,120
Gutta-jelatong (Pontianak)	261,871	16,196
Total.	3,237,438	$1,487,431
Exports:		
India-rubber	327,012	$234,392
Reclaimed rubber	122,508	17,562
Rubber Scrap Imported	2,049,166	$129,371

BOSTON ARRIVALS.

	POUNDS.	
JULY 1.—By the *Lancastrian*=Liverpool:		
Crude Rubber Co.—African		28,227
JULY 1.—By the *Commonwealth*=Liverpool:		
Livesey & Co.—African		4,028
JULY 8.—By the *Michigan*=Liverpool:		
George A. Alden & Co—African	6,887	
Livesey & Co.—African	11,447	18,334
JULY 9.—By the *Cestrian*=Liverpool:		
Crude Rubber Co.—African	4,563	
George A. Alden & Co.—African	7,103	11,666
JULY 12.—By the *Saxonia*=Liverpool:		
Livesey & Co.—African		9,508
JULY 15.—By the *Winifredian*=Liverpool:		
George A. Alden & Co.—African		5,482
JULY 23.—By the *Sagamore*=Liverpool:		
George A. Alden & Co.—African		12,349
JULY 23.—By the *Ultonia*=Liverpool:		
George A. Alden & Co—African		55,257
Total		145,551

[Value, $68,881.]

GUTTA-PERCHA.

JULY 9.—By the *Caledonian*=London:		
George A. Alden & Co.		2,240
JULY 24.—By the *Peruvian*=Glasgow:		
George A. Alden & Co.		1,008
Total		3,248

JULY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.	—	—	15,300	—	15,300	117,064	16,820	48,005	2,705	184,594	199,894
Frank da Costa & Co.	4,628	534	10,744	—	15,906	90,511	11,231	85,847	1,500	189,089	204,995
Adelbert H. Alden	9,360	900	16,000	414	26,674	80,690	19,960	32,100	—	132,750	159,424
Denis Crouan & Co.	—	—	—	—	—	30,260	5,950	24,320	—	60,530	60,530
Neale & Staats	—	—	—	—	—	21,206	2,133	10,159	—	33,498	33,498
Rudolf Zietz	—	—	—	—	—	16,607	4,897	8,109	1,042	30,665	30,665
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	5,780	2,929	208	—	8,917	8,917
The Sears Pará Rubber Co.	1,467	317	239	—	2,023	—	—	—	—	—	2,023
Kanthack & Co	—	—	—	—	—	513	45	1,274	—	1,832	1,832
Direct from Iquitos	—	—	—	—	—	6,083	1,696	26,060	105,782	139,621	139,621
Direct from Manàos	38,410	10,460	9,960	4,420	63,250	106,482	19,474	22,522	27,246	175,724	238,974
Total for July	53,865	12,211	52,243	4,384	123,153	475,196	85,135	258,604	138,275	957,210	1,080,363
Jan.-June	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,072	1,408,662	1,980,886	7,475,536	16,988,604
Total for 1901	4,922,477	1,143,985	2,453,841	1,115,918	9,636,221	3,829,112	817,207	1,667,266	2,119,161	8,432,746	18,068,967
Same time 1900	2,782,824	495,804	1,705,441	500,060	5,484,129	3,202,215	661,447	1,297,073	539,447	5,700,212	11,184,341

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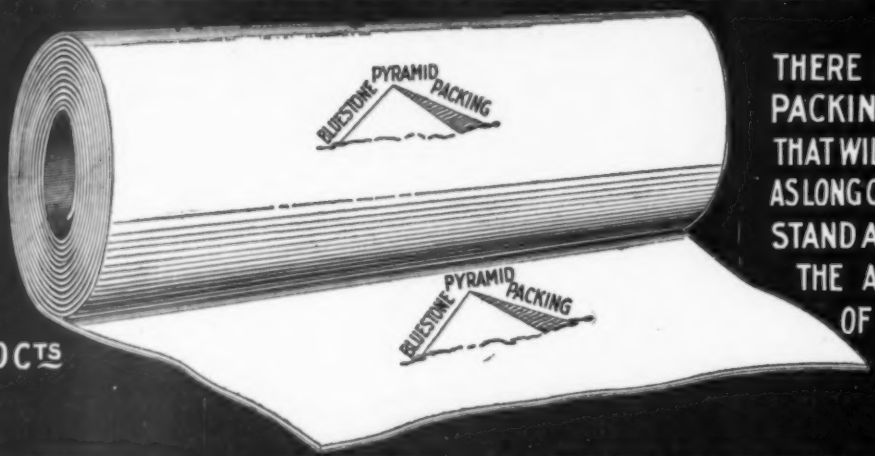

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